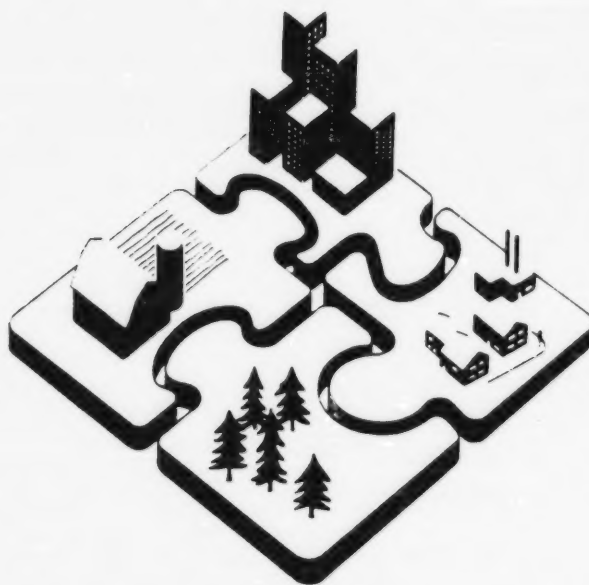


ENVIRONMENT BY DESIGN

The Urban Place In Alberta



**A Discussion Paper Prepared for the
Alberta Conservation Strategy Project**

Environment By Design

The Urban Place in Alberta

Prepared by
Urban Environment Sub-Committee of the
Public Advisory Committees to the
Environment Council of Alberta

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FOREWORD

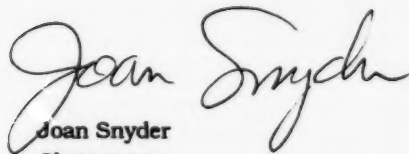
In late 1985, the Public Advisory Committees to the Environment Council of Alberta began working toward a draft conservation strategy for Alberta. The Public Advisory Committees (PACs), comprising representatives of some 120 non-government organizations, are in many ways an ideal organization for developing a strategy that should touch the lives of all Albertans. The PACs bring together many diverse viewpoints, we are non-partisan, and we have members from across the province. Since the early days of the project, we have welcomed non-PAC participants, and have been delighted to receive the contributions of civil servants, industry spokespeople, academics, and the general public.

We have made progress since 1985: the *Prospectus for an Alberta Conservation Strategy* has been published and many meetings and workshops have been held. The principle of a conservation strategy increasingly has been endorsed by Albertans, and Alberta has been recognized across Canada as a leader in conservation strategy development. There have been important related events. For example, in September of 1987, every environment minister in Canada endorsed the final report of the National Task Force on Environment and Economy, which recommended that conservation strategies be in place in every province and territory by 1992. This same report was endorsed by the First Ministers at their November, 1987 meeting.

We will have a conservation strategy for Alberta, we hope by 1990, the Canadian Year of the Environment. Our work continues in the expectation that all those who are interested will have a chance to contribute to the project, through public hearings or some other public participation process.

Since the publication of the *Prospectus*, the PACs have concentrated on preparing sectoral discussion papers. The Conservation Strategy Steering Committee determined early on to produce background papers on relevant sectors, such as agriculture, fish and wildlife, tourism, oil and gas, and others. These discussion papers look at the issues within each sector, but, more importantly, they investigate the interaction of each sector with the others. Their preparation has involved consulting with a wide range of interest groups — a conservation strategy principle in action — which has proven fruitful in developing ideas about the ultimate conservation strategy. These discussion papers will be used as background information for drafting a conservation strategy document and, perhaps, in the future, in public hearings on the draft conservation strategy. This report is one in the series of discussion papers.

Because there are as many opinions on our best future direction as there are Albertans, we welcome comments. The conservation strategy will be only as good as the work that goes into preparing it. Please address any comments on this discussion paper or others in the series to the Environment Council of Alberta at the address given on the page opposite. I would also encourage you to make your opinions known at public hearings or other events as they are held. Let's treat Alberta as if we plan to stay!



Joan Snyder
Chairperson

Conservation Strategy Steering Committee
Public Advisory Committees to the Environment Council of Alberta

ABOUT THIS DISCUSSION PAPER

This discussion paper looks at different facets of the urban environment from a broad environmental perspective, pointing out the interconnections of our economic systems, decision-making systems, and our environment. We do not offer all the answers; in fact, this paper raises far more questions than it answers. This was our purpose. We want Albertans, both urban and rural, to think about the kind of future they would like to see for our province, what our priorities should be, and how we can attain our goals in an economically and environmentally sustainable manner.

We have used the term "urban" somewhat loosely, encompassing human communities of virtually any size. Of course some aspects of large cities are less relevant to small towns and hamlets, and vice versa. But many aspects are common to all human settlements, and we are certain that readers from communities of any size will find useful and thought-provoking ideas in this paper.

The paper begins with some thoughts about the role of urban places, particularly in Alberta, and how this role is changing. A major focus of the paper is on maintaining a sustainable urban environment, and we point out the need for urban places to include environmental considerations in their long-term plans. Chapter 6 examines the interactions of urban places with outlying areas, looks at some of the interactions within towns and cities, and addresses the relationships between urban places and the national and international scene. Finally, the decision-making process is examined, as well as some explanations as to why urban places function the way they do. The economic and political relationship between municipalities and the Province is considered, and the paper concludes with some thoughts about the future of Alberta's urban communities.

ACKNOWLEDGEMENTS

The Urban Environment Sub-Committee takes a great deal of pride in offering this discussion paper to the public of Alberta for their deliberation. This paper has been an exciting and challenging exercise for us, as we followed the able and dedicated leadership of Bill Flook, our sector representative on the Steering Committee. Kim Sanderson provided valuable assistance in preparing the manuscript, and we also acknowledge the support of other ECA staff who collected literature, edited, and distributed this paper. We are particularly indebted to several people for stimulating our thoughts and offering some fascinating ideas about what could be in store for Alberta's urban communities. However, the contents of this paper are our responsibility, and do not necessarily reflect the views and opinions of the people we gratefully acknowledge below.

Dr. D.D. Detomasi, Dean, and Dr. I. Robinson, Professor, Faculty of Environmental Design, University of Calgary; Mr. S. Dietze, Executive Director, Alberta Urban Municipalities Association; Dr. M. Hollinshead, Associated Economic Analysts, Ltd.; Mr. R. Tatasciore, EDA Collaborative; Mr. J. McGowan, Jr., Alberta Municipal Affairs; Mr. A. Crerar, Environment Council of Alberta; Mr. W. Shaw, Red Deer Regional Planning Commission; and Mr. O. Maruschak and Mr. P. Cadden of the Research and Development Branch, Alberta Municipal Affairs.

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INTRODUCTION: THE CITY AS AN ECOSYSTEM

Cities have often been likened to symphonies and poems, and the comparison seems to me a perfectly natural one.... By its form, as by the manner of its birth, the city has elements at once of biological procreation, organic evolution and aesthetic creation. It is both a natural object and a thing to be cultivated; something lived and something dreamed. It is THE human invention par excellence — Claude Levi-Strauss

Being social creatures, most members of our species have chosen to live together in communities created and maintained with immense individual and collective effort. It seems appropriate to refer to our communities as human ecosystems, since they have a number of features in common with biological systems. We see in urban literature comparisons between urban places and biological systems or individual organisms. Urban systems are dynamic, responding to change and evolving new forms and new mechanisms of survival as a result. Furthermore, just as diverse biological systems tend to be more stable, human communities that have a diversity of activities, economic opportunities, and intellectual resources are more likely to be stable and flexible in their response to outside forces. Of course, this also raises the possibility that urban places that fail to adapt might perish; certainly the ghost towns of the past are such communities, and we still hear about places, particularly resource-based communities, that die when the major employer moves out or the local rail link is abandoned.

Symbiotic forces too are at work in our communities. Each of us brings to the community milieu our own unique combination of ideas, experience, and talents; the opportunity to interact

and share these with others, in a variety of situations, means that a community as a whole can be much stronger than the individuals it comprises. A powerful synergism can become apparent in healthy, vital cities with many people, each of whom has a contribution to make.

But of course there are also negative aspects of groups of people living together, as every urbanite realizes and others are quick to point out. The problems of crowding, poverty, crime, sprawl, and pollution, although not confined to cities, are all associated with urban areas, and cannot be ignored. On a global scale, these are neither new problems, nor are they likely to totally disappear in the cities of the future. Nevertheless, indications are that people will continue to seek the opportunities offered by cities, which means that the problems of urban places will be the problems of increasing numbers of our planet's people. It is necessary that we turn some of our remarkable creative powers to dealing with these concerns, preventing them where we can and solving as many as possible. Cities, their problems, and their opportunities are relatively new to Alberta, and we can benefit tremendously by observing the successes and failures of other urban places while we shape the future of our own cities and towns.

When we think of conservation we tend to think first of our natural resources — our soil, water, air, forests, wildlife, and so on. We hear more and more about the need to protect these resources and use them in a sustainable, responsible manner to keep open as many options as possible and ensure we pass them on to future generations. This concept of stewardship is familiar to farmers, wildlife managers, foresters, and others who are on the front lines of resource management.

But what about our urban areas? Surely the concept of stewardship is important here too. The major resource that is being nurtured in our communities is the human one, and just as the whole of society should be concerned about maintaining soil productivity and protecting our wildlife, all of us should be interested in maintaining the health of our urban ecosystems too. Urban areas have been essential in the development of our culture in its broadest conceivable sense. They will continue to play a major role, economically and socially, as we enter the 21st century, and we have as much opportunity to influence the sustainability of our cities as other resource managers have to influence the ecosystems with which they work. We must also remember that "people and their cities are as much natural phenomena as trees, streams, nests, and deer paths. It is crucial that we come to see ourselves as an integral part of the total living community" (Lynch 1981: 98).

For an urban place to be sustainable, it must be a place where people want and choose to live, and where they have opportunities both to benefit from and contribute to the viability of their community. The capability of urban areas to meet our needs in an environmentally and economically sound manner, at present and in the future, is the essence of sustainability.

This means that, to the greatest possible extent, we should find ways to close our ecological and economic loops — using energy as efficiently as possible, matching appropriate energy sources to their end uses, recycling materials and nutrients, and adjusting demand for resources to availability.

Urban places often have been considered (by many North Americans in particular) unpleasant

For an urban place to be sustainable, it must be a place where people want and choose to live, and where they have opportunities both to benefit from and contribute to the viability of their community. The ability of urban areas to meet our needs in an environmentally and economically sound manner, at present and in the future, is the essence of sustainability.

places to live — a residence of last resort for those with the best interests of their family at heart. This image is changing. We have seen that cities can be exciting, dynamic, and interesting places to live, and William Whyte suggests in his 1968 book *The Last Landscape* that our metropolitan areas in fact are going to get much better; they are going to be better places in which to live, and one of the reasons is that a lot more people are going to be living in them.

What, then, makes some communities vital and enduring? How do they ensure that the needs of individual citizens and the community as a whole are met in a way that is sustainable and flexible enough to adapt to inevitable socioeconomic changes? What can we do to shape our urban places in an environmentally responsible fashion? How can we influence the characteristics of our urban communities so they are places where people will want to live? These are some of the questions that will be explored in the next chapters.

BACKGROUND: THE BEGINNINGS OF URBAN COMMUNITIES

Alberta's Urban Places

Compared with many other parts of the world, Alberta was settled very recently, and social and economic transitions that took centuries in other places have happened much more quickly here. Alberta's early settlement pattern was related to the availability of resources and transportation and, although some things have changed, we still rely heavily on our natural resources.

Looking at the traditional mainstays of Alberta's economy and the province's history, many would conclude that this is not an "urbanized" province. "Urban" connotes to most people a place with a very large number of inhabitants, industrial and manufacturing activity, and sprawling development. We have chosen to use the term in a more general way to mean a broad range of settlement patterns, which allows us to examine the needs and functions of communities regardless of size.

Alberta has two metropolitan centers and 16 cities that are regional centers, along with nearly 300 smaller towns, villages, and summer vil-

lages. However, almost 80 percent of Albertans live in these urban places (with 50 percent in the two largest centers). Figure 1 shows the change in the rural/urban proportion of Alberta's population from 1926 to 1986. If efforts to diversify the province's economic and industrial base succeed, the population of large and small urban areas will undoubtedly increase.

As with other places in North America, since the second World War, most of Alberta's population increase has occurred in urban centers. A more buoyant global economy and demand for Alberta's products stimulated growth and development in the resource industries, spurring

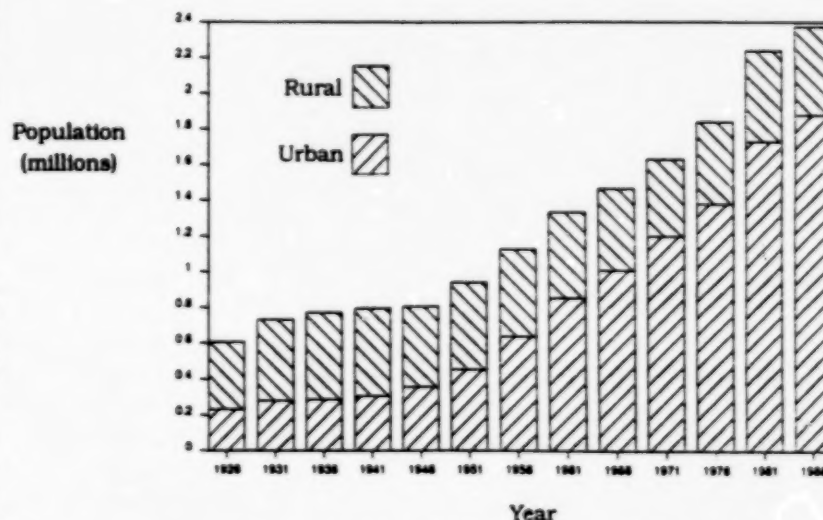


Figure 1. Changes in Alberta's Rural and Urban Populations

Source: Statistics Canada. Various dates. Catalogue Nos. 92-709, 96-710

further growth in the urban-based service and manufacturing industries. With these developments, the dominant position of Calgary and Edmonton as the province's major centers was firmly established. Despite some movement away from the major cities in the 1970s, due to changing life-

It may be that a modern urban place is defined more by its functions or functional relationships such as its communications, commuting, volunteerism, and social structure, than by the traditional municipal services it offers.

styles of a portion of the population, the trend to urbanization is unlikely to reverse. The arrival of immigrants from very urbanized countries will probably further support this trend. We therefore need to consider as part of a Conservation Strategy for Alberta what kind of a future we want for our urban places, and how they can continue to be desirable places to live.

Much has been written about the urban form and why it is that cities have endured. It is not the purpose of this paper to even attempt a review of this literature. But some background is useful because it provides perspective on the role of urban places and it can help us to evaluate and compare our own ideas for change. The next sections discuss some of the theories that have been developed to increase our understanding of urban places and cities in particular.

The City Defined

It is difficult to define what we mean by a city. Any discussion of very early cultures must contain a certain amount of conjecture. It is likely, however, that "cities," and settlements generally, originated as meeting places to which people periodically returned. Opportunities for social interaction probably encouraged these meetings, providing further opportunities for more commercial activities as time went by. Eventually, permanent

groupings of human beings were established, grew, and became more complex.

The problem of definition has existed for a long time and has become more complicated with the rise of the modern city. McGahan (1986) agrees with others that we should not define

"urban" in primarily spatial terms. Rather, the term should refer to that set of functional relationships through which a specific population is able to meet its daily needs, and urbanization represents an expansion or elaboration of that organization. It may be, then, that a modern urban place is defined more by its functions or functional relationships, such as

its communications, commuting, volunteerism, and social structure, than by the traditional municipal services it offers.

Jane Jacobs describes the functions of a city in another way:

The vital functions [of cities] are to serve as primary developers and primary expanders of economic life....They require continually repeated inputs of energy in two specific forms: innovations, which at bottom are inputs of human insight; and ample replacements of imports, which at bottom are inputs of the human capacity to make adaptive imitations. The usefulness of cities is that they supply contexts in which those inputs — insights and adaptations — can be successfully injected into everyday economic life (Jacobs 1984: 195).

Despite the definitional problem, we have identified a very important role of the city in human history — some would say the most important role — that of ensuring the continued survival of human culture by providing an environment where human creative powers can blossom, bear fruit, and leave seeds to germinate in the minds of future generations. If this is in fact the thing that cities do best and which can be accomplished in no other way than through this collective human habitation, then the continued

viability of our urban places is essential to the continued well-being of our species.

This role of cities is a rather abstract concept and not easy to measure; we can make observations about the success of long-established cities in fulfilling their role up to this point, but whether or not urban places continue to successfully provide an appropriate environment for the creativity of human beings can only be determined by generations to come.

Functions of Urban Places

Regardless of size, urban places must meet the needs of their residents by performing a variety of less abstract functions. One way of categorizing these functions is offered by Gertler and Crowley, who drew on work done by the Westre Institute. Inspired by general systems theory, "the approach is based on the insight that all living or self-maintaining systems, from the most simple to the most complex, must if they are to survive meet a certain set of basic requirements or 'fitness functions' " (Gertler and Crowley 1977: 397). In very general terms and with respect to urban areas, these systems have six basic needs, as shown in Table 1.

To this list might also be added "opportunities for play," one of the things that cities

provide very well. This approach to identifying the needs of urban places also draws attention to what is essential and salient to the form and quality of the city, and it compels consideration of the relationships between different policy/program sectors (that is, it asks "what are the combined effects?") (Gertler and Crowley 1977).

Many would argue that most of these basic needs are now being met; indeed, 20 years ago, in 1968, Edward Banfield contended that the overwhelming majority of city dwellers in the United States were living more comfortably and conveniently than ever before. He recognized that not all residents shared fully in this prosperity, often for reasons beyond their control, but he maintained that overall absolute performance with respect to housing, education, and other important aspects had improved; the problem was that our standards and expectations had risen faster than performance. He cautioned of the danger that we may mistake failure to progress as fast as we would like for failure to progress at all and, in a panic, rush to implement ill-considered measures that will only make matters worse.

Recognition of these needs and a regular assessment of our ability to meet them in a sustainable manner is essential for the maintenance of healthy urban places.

Table 1. Needs of Viable Urban Places

- | | |
|---|--|
| 1. Resources: the intake, use, and discharge of raw materials and energy needed to sustain life | 4. Integration: of information by individuals and groups so as to produce a high level of functional effectiveness in the system as a whole |
| 2. Protection: of persons, physical things, and institutions against pre-meditated and accidental harm | 5. Culture: the capacity to call upon a shared set of values, which enables the system to assess and cope with a wide range of situations |
| 3. Communication: of information about rights and obligations as well as all manner of public events and issues essential to the functioning of the system | 6. Flexibility: the ability of the system to adapt existing values and practices to meet changing conditions |

ECONOMIC AND SOCIAL SIGNIFICANCE OF URBAN PLACES

Some Demographic Trends

Healthy urban places have traditionally attracted people who were looking for new opportunities and a better way of life. It is likely that right from the beginning, people have been pulled between the desire to "settle down" and the desire to "move on." Immigrants to North America came for a variety of reasons and people continue to pull up stakes and move on for many of those same reasons today: to find better living conditions for themselves and their families, to advance in a career, to escape a social, economic, or political environment they find unsatisfactory, and so on. Cities have attracted people from other urban areas and from rural regions for decades in Canada; indeed "goin' down the road" might be considered part of the Canadian way of life regardless of where the road starts. This phenomenon was clearly evident in the mid to late 1970s when thousands moved west from eastern and central Canada in search of work, and the reverse migration has taken place 10 years later when much of the western economy has soured.

Such migrations are a natural part of the evolutionary process for cities, nations, and perhaps the world. They bring together people with new and

different ideas and experiences, and can have a revitalizing effect, hastening the establishment of a new equilibrium. However, such cycles can also create considerable hardship when they occur frequently and the effects are widespread.

Migration has resulted in many newcomers to Alberta, but there has been a natural increase in the population too. The number of births and deaths for selected years is shown in Table 2, along with the percentage rate of natural increase in Alberta. Not only is our population growing, but it is predicted that more of us will live longer (see Figure 2) and remain active for a greater part of

Table 2. Births, Deaths, and Rate of Natural Population Increase in Alberta

	Births	Deaths	Total Population (thousands)	Rate of Natural Increase* (%)
1926	14,456	5,159	607.6	1.5
1936	15,786	6,147	772.8	1.2
1946	22,184	6,601	803.4	1.9
1956	34,951	7,786	1,123.1	2.4
1966	30,592	9,677	1,463.2	1.4
1976	33,063	11,584	1,838.0	1.2
1985	43,813	13,231	2,348.8	1.3

* (births - deaths)/total population x 100

Adapted from: Statistics Canada. Various dates. Catalogue Nos. 84-204 and 84-001.

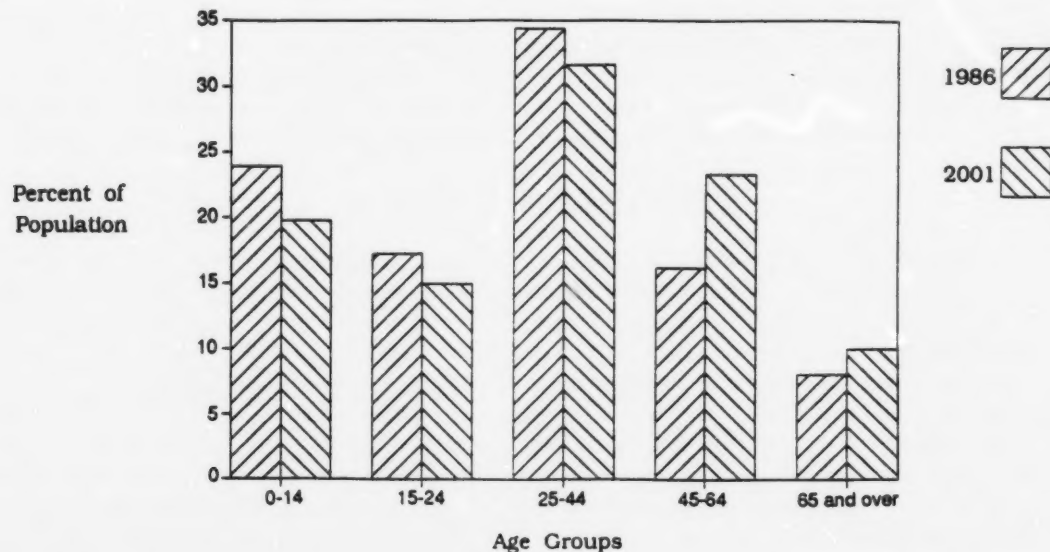


Figure 2. Alberta Population Projections Update, 1986-2011

Source: as shown in Alberta Recreation and Parks 1987

our lives. This has implications for the facilities and services that urban places will be expected to provide in the future.

As it is, urban places offer a variety of opportunities to people and increased flexibility in the way they may live their lives. Lifestyles and expectations have changed a great deal in the past three or four decades; although we may have romantic memories of a childhood on the farm or a cozy neighborhood, an urban lifestyle offers many advantages for a two-career family with only one or two children, such as jobs, a variety of educational choices, and flexible child-care. For older people, the proximity of goods and services in a city is particularly important. Also available is a wide variety of housing, sophisticated medical services, and educational, recreational, and cultural opportunities. For single people too, there are many options for social activities, employment, and housing.

This variety of opportunities and social flexibility means that successful urban places also demand tolerance and understanding from their inhabitants. This tolerance becomes more necessary the closer together people live; the

ability to accept the decisions and lifestyles of others that differ from one's own (as long as they do not pose a threat to others) is very important in maintaining healthy urban places.

Urban Places in Alberta

During this century, we have seen in Alberta the rise and fall of many of our small towns, especially those in rural or resource-based communities. This decline, which continues today, can be traumatic for those who leave and those who stay, as well as for the community that receives the newcomers. These small communities are at the mercy of commodity-based industries, and although there may be some cause for optimism with the information-based businesses, ultimately the onus must be on the community itself to find ways to remain alive. Temporary assistance to ease them through a transition period may be feasible for communities with a potentially bright future, but the response of artificially propping up declining industries in areas with an otherwise bleak future cannot be recommended. One role of a Conservation Strategy for Alberta might be to

determine if this decline is desirable and inevitable, and what sorts of programs might be considered to mitigate the difficult period of adjustment that results.

The major reason for these cycles in Alberta is our heavy reliance on a handful of industries; the lack of economic diversity increases our vulnerability, and the problems that face the towns and cities of Alberta indicate the problems facing the province as a whole (Detomasi 1987). Our reliance on the petroleum industry is especially significant, as scenarios for virtually every aspect of Alberta's future continue to be based on various predicted prices for a barrel of oil. Interestingly, although Edmonton and Calgary have been affected by these cycles, over the last 40 years or so they have continued to experience consistent growth rather than the boom and bust patterns seen in other parts of the province. As expected, the greater stability offered by these large, more diverse centers seems to help smooth out these variations (Kosinski 1984).

Trade And A Changing Economy

It is in looking at the city as the driving force of the economy that the position of cities in the larger context (that is, the province and nation) becomes so important. Many economic and other decisions with profound implications for urban places are made elsewhere by people with different priorities.

Jacobs argues that, to be healthy and productive,

cities and potential cities have two fundamental, bedrock economic needs. Large nations...can serve one of these well, while they are at cross-purposes with respect to the other...from the moment they begin to develop and then forever after, cities need ample, volatile trade with other cities. Large nations can serve this one need well because they can eliminate gratuitous barriers in their domestic trade. Thus the larger a nation and the more cities it contains, the greater the opportunities for unhindered city trade (Jacobs 1984: 208).

However, the second fundamental need of cities is to keep themselves up to scratch individually —

that is, to maintain their own productivity and economic vitality. It is this need that nations serve so poorly.

Although Jacobs' argument has merit in that cities will need to exchange "things" to remain prosperous, the "things" that can be offered in trade are changing. In the past, cities with an advantage because of location were the ones that prospered. This locational advantage could be related to commercial activities (a seaport or a position at the confluence of trade routes, for example), to cultural or religious activities (competitions, shrines, etc.), or to natural resource availability (forests, mineral deposits, and so on). After the Industrial Revolution and the rapid growth in manufacturing, urban places offering the best locational advantages (resources, energy, markets) grew quickly and often chaotically. These industrial cities, founded on the control of technology, represented a tremendous change from earlier "traditional" cities, and the considerable wealth they generated was usually reinvested in the community.

However,

investment also took some new forms that were to lay the foundations for a new type of power that would play a critical role in the development of the industrial city.... As technology advanced, knowledge was accumulated. Industrial know-how became a new form of capital. Investment in the production of knowledge can be referred to as human capital, to distinguish it from physical capital. The reason why this distinction is important is that physical capital is, like liquid capital, a commodity that can be controlled and moved quite separately from its owner, whereas human capital, which takes the form of knowledge or know-how, is strictly a human resource and does not exist outside the mind (Knight 1982: 54).

Furthermore, knowledge is just as mobile as its proprietor.

Like the Industrial Revolution, the current Information Revolution promises to have a major impact on our society, and on our cities, although the nature of the impact will be very different.

The Industrial Revolution made available and employed vast amounts of mechanical energy. Much of its technology was crude, with only a modest scientific or theoretical base, and was supported by a profligate rise in energy consumption. In contrast...development [of the electronics revolution] over the past 60 years has been the product of the most advanced science, technology, and management. Since it is sparing of energy and materials, it is virtually guaranteed an enduring impact (Hamrin 1980: 21).

Although many new employment opportunities are expected to arise in the traditional service industries, these pale in comparison with projected development in the information sector in terms of overall impacts on the economy, business, and individual lives (Hamrin 1980). Since World War II, the provision of services has displaced manufacturing as the largest element in the economy of virtually all advanced nations (Quinn et al. 1987). Even in Alberta, with our reliance on resource-based industries, the service sector is substantial, providing services in resource production and manufacturing and many other areas.

The transition from production and manufacturing to a service economy (including aspects related to information services) is occurring world-wide, and urban places that lacked locational advantages in the past may now find themselves able to compete on a more equal footing. Such industries can locate virtually

anywhere; their decisions are not tied to access to physical resources or freight transportation routes, for instance, but to other factors such as recreational opportunities, the availability of an educated, skilled work force, and an unpolluted environment.

Many cities and regions that were developed based on proximity to resources and other locational advantages will find themselves in a period of transition as their resources are depleted or their products become too costly. But this transition does not necessarily translate to increased unemployment or reduced municipal wealth. Communities with some diversity in their economic base, some flexibility in their decisions, and the ability to adapt quickly will thrive.

Changes in the way our cities relate to each other and a differentiation in their functions may be on the horizon. For example, in southern Ontario's Golden Horseshoe (a single urban area, in essence), this change has been apparent for some time: an important component of Hamilton's economy is heavy industry (in particular steel), the Kitchener-Waterloo area engages in lighter industrial activities, Toronto offers financial and other services, and of course auto manufacturing is a major activity in Oshawa. Adapting to changing conditions, whether they be environmental, social, or economic, may mean developing different strategies for survival and sustainability.

FUTURE DEMAND FOR URBAN PLACES

There is no reason to think that people will be less desirous of living in urban areas in the future than they are now. In fact, it has been argued that many of the things that made cities unattractive in the past are themselves becoming things of the past. Problems associated with dirty, noisy factories; polluted air and water; and lack of open spaces have been at least partly overcome. As the information revolution (or the knowledge revolution or the communications revolution — whichever term it is known by) proceeds, it is very likely there will be increased emphasis on amenities and "quality of life" in urban places.

Quality of life is a key factor in the future growth and viability of cities. As mobility (both personal and informational) grows, the need to establish in a particular location becomes less; footloose enterprises, such as the new information-related businesses, are already drifting to the most attractive and exciting places. A recent issue of the *Conservation Foundation Letter* notes:

Research is showing that a community's livability and quality of life is an important factor in retaining existing businesses and attracting new ones, particularly in the most dynamic sectors of the economy, such as health care, electronics, and services (The Conservation Foundation 1987: 2).

A 1981 report from the U.S. revealed that the third most important location factor (after labor climate and proximity to markets) was an area's attractiveness to managers and engineers (Schmenner 1981). For 35 percent of the firms surveyed, a community's livability — including

such factors as a good educational system and recreation and cultural facilities — was a critical factor, and was most important to firms employing high percentages of white-collar workers. Furthermore, quality of life is expected to be even more important to business in the future, as the U.S. Bureau of Labor Statistics projects that the fastest-growing occupations to the year 2000 will be in high-skill fields such as engineering, computer programming, nursing, law, and accounting. These are the same professionals to whom the quality-of-life factors identified above were so important in choosing a place to live (The Conservation Foundation 1987).

Thus, it may be that the future vitality of cities such as Edmonton and Calgary will rely on these other factors: a variety of educational opportunities for both children and adults, modern medical facilities, quality entertainment, and so on. In smaller centers too, there are many things to attract footloose businesses, their employees, and potential spinoff industries. Indeed, Alberta's intermediate-sized cities, and even many of the smaller ones, might be considered to offer some of the best of both worlds — an adequate supply of necessary goods and services without the traffic, noise, and higher housing prices associated with big cities, yet with easy, convenient access to a metropolitan center for medical emergencies, entertainment, and other amenities.

Environmental factors that contribute to the appeal of an urban place now are often taken for granted — such things as clean water and air and open space. Much of the early industrial development occurred quickly, with little regard for the environmental implications, and it has taken a great deal of money and effort to mitigate these effects and prevent further deterioration. But, in

retrospect, many of the conditions that led to rapid city growth following the Industrial Revolution and later, during the 20th century, (at least in North America) are unlikely to be repeated.

Advantages that contributed to the establishment of urban places decades ago soon may no longer apply — the rules are changing and, to a large extent, the way in which communities respond will determine whether they prosper or decline. There are of course other factors that will influence their future viability. But the patterns of future urban development, perhaps more than

ever before, will depend on the ability of individual urban places to determine their own destiny — to take advantage of new opportunities and incorporate those things appropriate to their own situation. Experience suggests that the most successful ventures result from initiatives coming from within the community rather than developments that are imported; subsequent chapters of this paper will attempt to identify conditions that encourage this type of development and allow individual communities to play a stronger role in determining their own futures.

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MAINTAINING A SUSTAINABLE URBAN ENVIRONMENT

The notion of sustainability is fundamental to a conservation strategy, and the ultimate achievement of this goal will depend on the attitudes and priorities of our society. Cities and their residents can play an important role: the city is the habitat of choice for most people, as well as the place where considerable amounts of resources are used. In Alberta, as elsewhere, our cities are intimately linked with the productivity of both the urban environment and the hinterland. The potential influence of cities in ensuring their own sustainability as well as that of the hinterland is significant. However, this potential is undermined by the lack of status and decision-making authority generally accorded urban areas. There is a universal historical tendency for urban areas to be under-represented in federal and provincial deliberative bodies, and thus the potential contribution they could make to federal and provincial decision-making is downplayed.

Nevertheless, issues that affect sustainable resource use often can be brought down to the local level, so there are opportunities for cities to take the initiative when it comes to their own sus-

tainability. The responsibilities of urban government are those that affect us in our day-to-day lives and are important in meeting our basic needs: providing clean drinking water, removing and adequately treating our wastes, ensuring safe design of houses and public buildings, maintaining our transportation system, providing recreation facilities, and so on. Towns and cities can offer their residents first-hand experience in shaping local direction; they are "...the means for responding to what Hannah Arendt calls the need for 'public freedom,' the need to participate actively in making basic societal decisions" (Morris 1982: 106). Finding the key to sustainable, healthy urban places is essential; indeed, it is probable that the ultimate success or failure of society as a whole to achieve sustainability will be determined by our cities.

An Ecosystem Model

So what is a sustainable city? Savage (1987) proposes that such a city would be in harmony with the ecosystems that support it, and would contain a citizenry that considers itself part of the biosphere and acts accordingly. Achieving this

goal is, among other things, an educational and political process; we need first to recognize our dependence on a healthy environment before we can ensure that our activities are compatible with the maintenance of this environment. This chapter focuses on the sustainability

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of cities, with particular attention to the role of environmental factors.

Michael Hough states that "in a world increasingly concerned with the problems of a deteriorating environment, be they energy, pollution, vanishing plants, animals, or productive landscapes, there is a marked propensity to bypass the environment most people live in — the city itself" (Hough 1984: 5). He suggests that little attention has been paid to understanding the natural processes that have contributed to the physical form of the city and which in turn have been altered by it.

One reason for this neglect is that North American cities were built on technologies that placed a high priority on economic goals and assumed abundant, cheap energy would always be available, in the process neglecting a range of environmental aspects. On this assumption, many communities grew quickly and inefficiently; cheap energy made it possible to greatly increase the hinterland from which cities could draw their raw materials, and cities became dependent on lengthy distribution systems. Cheap energy affected the way our buildings were constructed, and it resulted in the separation of our work place from our place of living, tremendously influencing the design and livability of our cities. Energy use underlies other elements of sustainability and its use and conservation will be returned to from time to time in this chapter.

In urban places, there is a clear link between the physical layout (the urban form) and its purpose (or function). The form that is in place to serve a function can influence the sustainability and vitality of an urban place. Kevin Lynch acknowledges the contribution of the ecological point of view in discussing good city form. However, he suggests the major drawback to this concept is that ecosystems comprise "unthinking" organisms, incapable of making conscious changes and modifying the system in any fundamental way:

An evolving 'learning ecology' might be a more appropriate concept for the human settlement, some of whose actors, at least, are conscious, and capable of modifying themselves and thus

of changing the rules of the game.... To the familiar ecosystem characteristics of diversity, interdependence, context, history, feedback, dynamic stability, and cyclic processing, we must add such features as values, culture, consciousness, progressive (or regressive) change, invention, the ability to learn, and the connection of inner experience and outer action (Lynch 1981: 115).

In other words, we can learn from previous experiences and, if we can build into our plans the flexibility to accommodate uniquely human aspects, then we can have a lasting, positive influence on our urban places.

One of the criteria for good city form, seemingly a prerequisite for sustainability, is what Lynch calls "vitality;" that is, "the degree to which the form of the settlement supports the vital functions, the biological requirements and capabilities of human beings — above all, how it protects the survival of the species" (Lynch 1981: 118). Vitality depends, among other things, on relating the nature of the spatial environment to the universal characteristics of human biology. Major considerations are:

- 1) sustenance (the adequacy of the throughput of water, food, air, energy and waste);
- 2) safety (the absence of environmental poisons, diseases, and hazards); and
- 3) consonance (the degree of fit between the environment and the human requirements of internal temperature, body rhythm, sensory input, and body function — in other words, the degree to which we feel comfortable with our surroundings).

These might broadly be labelled "environmental" factors. The first two aspects are particularly important for the maintenance of good physical health, and are aspects people tend to take for granted until the system malfunctions. These three factors essentially reflect the evolu-

tion of urban places, insofar as they are the things people sequentially worried about and tried to fix. Many of the pressing problems of earlier settlements, whose residents faced short and often unhealthy lives due to polluted air and water, unbalanced or inadequate food supplies, and the threat of disease, have been resolved for most towns and cities in developed countries; we have figured out, for instance, how to ensure clean water supplies and prevent outbreaks of cholera, typhoid, and other formerly commonplace diseases. However, now that we know how to meet these basic needs, we are finding that the costs of maintaining the appropriate infrastructure are increasing. It may be necessary to look for alternative ways to meet these needs without compromising our standards.

Control and influence over these environmental factors are normally exerted by a few for the greater public good, with a recognition of what is technically and economically possible. For instance, when we set standards for clean air and water or the management of hazardous materials, we have tended to take the approach of reducing risk for the majority of people, rather than totally eliminating it. "The basic rule is group survival, followed by individual well-being and the opportunity to use and develop inherent human powers" (Lynch 1981: 123). This approach has served us well, but it is important that we regularly assess our methods for ensuring resource adequacy and public safety in urban areas and elsewhere.

Some Current and Emerging Issues

Lynch (1981) points out that advances in knowledge, changing lifestyles, and the removal of these previous threats reveal new threats or convert old, accepted fates into soluble problems.

The removal of gross threats to physical health such as cholera and rickets shifts attention to the possible role of environment in heart disease or cancer, or to even more subtle spatial predisposers to mental illness. When earthquakes can be predicted, then one must consider how and when to evacuate a threatened city. Thus, although there has been

much success in improving the living habitat, it is a more difficult issue today than it was. Because of our rising expectation, it seems even farther from realization (Lynch 1981: 124).

Our technological advances offer a mixed bag of tricks. On one hand, we have become much better at monitoring our environment, detecting pollution, and using resources efficiently. On the other hand, these advances can have problematic socio-economic effects, and all the technological questions still have not been answered.

We do not know, for instance, the toxic threshold levels for many of the substances we can measure — when should we become concerned? Even familiar substances we use every day can be toxic in excessive amounts or to people who are unusually sensitive.

Furthermore, even when we have detailed information about individual chemicals, we often have no idea of how they will interact with other compounds in the air, water, and soil, and what the combined effect might be.

One of the reasons for the discrepancy between our capacity to gather this information and our ability to interpret it is the incredible speed with which new chemicals have proliferated. In other words, we may be able to measure minute amounts of a substance, but we know little or nothing about its true potential toxicity.

There are many very difficult issues facing urban places as the 20th century draws to a close. Some of these are discussed on the following pages, in varying detail. We realize there are other issues of real significance to urban places, not least of which relate to socio-economic disparities. Some of the discussion in this paper has relevance to these problems of poverty, inadequate housing, crime, and so on. However, the exclusion of an issue or the level of detail in which it is discussed does not necessarily reflect its significance or its urgency; rather, the discussion is an attempt to focus on environmental concerns that could be addressed in a Conservation Strategy for Alberta. References in the bibliography, texts on urban sociology, and many other sources are available

for readers wanting more information on any of these issues.

Disease

Engineering and medical technology have virtually eliminated diseases related to poor sanitation and hygiene. Other diseases, although not confined to urban places, receive more attention when they occur in cities because of the greater population and extensive media coverage. Legionnaire's disease and AIDS are good examples of current threats, but our knowledge about these diseases continues to expand rapidly. Although we may not be able to predict future disease outbreaks, our tools, techniques, and generally growing body of knowledge should help us to respond more effectively.

Safety

Concerns about both personal and public safety continue to surface on the urban agenda. Some of these relate to the deteriorating condition of our infrastructure — the bridges, water mains, and highways, in many cities and towns — while at a more personal level, people worry about crime and fear for their personal safety. These surely are threats to the long-term viability and vitality of an urban place, and need to be recognized as having an impact on the willingness of people to live in an urban place.

Problems with the Indoor Environment

The new concerns arising as a result of modifications to our habitat and lifestyle are varied too. For example, the quality of the indoor environment has emerged as a new question with so many people now spending much of their lives inside. Ironically, the basis of this problem is the response to another environmental matter — efficient energy use. To combat energy wastage as prices climbed, new buildings were designed and constructed to reduce heat loss, and older buildings were sometimes retrofitted. Indoor air quality in both homes and offices has probably received the most attention as questions about recirculated air and off-gases from carpets, walls, and ceilings arise. The use of urea formaldehyde foam insulation created a furore a few years ago and

caused homeowners to think more about insulation and the merits of air-tight dwellings. Increased exposure to artificial lighting and background noise also has raised some concerns about the design of modern office buildings.

These are examples of the predicament we frequently find ourselves in as a result of our tendency to take a short-term approach to problems. Without adequate consideration of possible unintended effects of a particular action, we leave ourselves open for much more costly consequences in the future. We have seen this repeatedly in other environmental areas, and the urban environment is, unfortunately, no different.

Noise

In the larger urban environment, noise is a frequently overlooked form of pollution. Despite evidence of its adverse effects on human health and its significant (although not always obvious) economic impact, only token efforts have been made to reduce noise levels. As a result of its insidious nature, noise pollution generally comes to the fore only when it exceeds all reasonable levels. Even then, urban residents who are affected by excessive noise meet with little success in achieving remedial action. The long-term solution lies in prevention. Transportation and domestic noise, for example, can and should be reduced significantly through improved planning; stricter building regulations dealing with noise; manufacture of quieter vehicles, machinery, and household appliances; and so on. One approach is the establishment of a Quiet Communities Directorate, as recommended to the provincial government in 1982 to bring about a quieter and subsequently healthier urban environment (Environment Council of Alberta 1982).

Wastes and Waste Management

The management of wastes has become a major issue in the last decade or so, with more and more people living in urban areas. Modern sewer systems deal with the sanitation aspect, but some communities, recognizing the resource potential of human wastes, are looking for ways to use the nutrients and fertilizing capability of these wastes to grow crops. Effluent irrigation and sludge

application are practised in parts of Alberta and have proven to be successful. More widespread use of this resource would help to close the nutrient cycle, reduce the load on our water treatment facilities, and could perhaps reduce farmers' reliance on costly, energy-intensive fertilizers.

With respect to solid wastes, the mindset of our society tends to favor the overall practice of "sanitary landfill" disposal. It is easy for urban dwellers to give little thought to what happens to their garbage once it has been bagged and left in the back alley. But this out-of-sight, out-of-mind approach can lead to many problems with the operation of landfill sites: the control of leachate, production of methane gas, potential health problems in subsequent years, along with a number of unknowns that result from the mix and ultimate decomposition of materials being disposed of. Added to this are problems of neighborhood disturbance by traffic, property devaluation due to location and proximity to the landfill, and so on. Difficulties with this type of waste management have resulted in some urban municipalities being unable to secure landfill sites.

There is some cause for optimism, however. Recycling has received increased attention in recent years. Rapidly advancing technology soon could make it possible to recycle almost all material that is now considered waste. In Alberta, the Beverage Container Act has encouraged recycling of soft drink containers since 1971, but other materials including paper, glass, lube oil, plastic, and metal are being recycled in increasing quantities. Not only does recycling reduce the amount of land required for dumping, it also means that less energy is required to re-manufacture these materials. The extraction and processing of raw materials accounts for a significant portion of our energy consumption and, as energy prices rise, which they inevitably will, recycling will become even more attractive. For example, the energy required to produce one ton of paper from recycled material is 37 percent of that needed to produce a ton of paper from new fiber; the savings are the same for

steel, while a ton of copper from recycled metal requires only 13 percent, and for aluminum the figure is an astonishing four percent (National Association of Recycling Industries, Inc. n.d.).

Transportation

Although more energy-efficient cars are available, there has been little change in our personal habits; in fact, it has been suggested that perhaps the entire transportation system is now feeding on itself. City design has separated work from home and play, shopping from homes, and people from people.

During the 1970s the purposeful trip, one that moves goods or people from one place to another, increased rapidly, but the largest increase was in the category of 'transport generated trips': travel in search of a parking space, to the service station for fuel, to the garage for repairs, or to pick up or drop off someone (Morris 1982: 28).

Transportation has been a major factor in shaping the distribution, location, and density of urban areas. Communities that were established when energy supplies were cheap and seemingly limitless were built with the private vehicle in

With automobiles as the centerpiece of our transportation system, we leave ourselves open for impacts in many other areas.

mind. As a result, residents without their own transportation can be at a distinct disadvantage with respect to individual mobility in places where public transit is poor or non-existent. Furthermore, it now seems that the traditional vision of urban commuting patterns, in which most of the jobs were downtown, is becoming obsolete, at least in the U.S. Many suburbs now have "more jobs than bedrooms," as two-thirds of all jobs created between 1960 and 1980 were in suburbs, with a corresponding change in commuter pat-

terns. The number of people who commute to a suburb has grown twice as fast as the number commuting to a central city, and nearly half of all commuters travel to a suburb to work (The Conservation Foundation 1987).

With automobiles as the centerpiece of a transportation system, we leave ourselves open for impacts in many other areas. Large amounts of land are required, drainage and runoff patterns are altered, residential areas can experience higher noise levels, and transportation emissions are increased. All of these factors have associated costs, which should be considered when transportation decisions are made.

To illustrate the importance attached to the car in North America, a typical building allots about 200 square feet of space for each employee, while approximately 325 square feet are needed for each parking space (including the space, ramps, and aisles). Therefore, developers must set aside 1,300 square feet of parking for every 1,000 square feet of office space (Leinberger and Lockwood 1986).

Further, Robinson (1987b) has suggested that energy and transportation are likely to have a major influence on future urban development. He points out that residents in smaller centers consume much more energy for transportation than residents of cities, and as energy supplies are depleted, these non-metropolitan areas may find themselves at a disadvantage. When energy prices increase enough, he envisions the emergence of a multinucleated settlement pattern — that is, centralized, yet interactive groups of smaller centers providing employment and other opportunities within easy reach (Robinson 1984).

Certainly, ensuring safe, efficient movement of people around the city is a necessity. However, it seems we are hooked on big projects that are aimed at increasing supply rather than looking for ways to reduce the demand. We use this questionable approach in our management of other resources too. Perhaps the time has come to put a higher priority on valuable things that are lost when major projects proceed. Maybe we should be encouraging a shift to staggered work hours,

car-pooling, eliminating subsidized parking or restricting it to those cars carrying two or more people, and limiting private vehicle access to congested areas during specific times of the day. The fact that many of these things are slow to happen reflects the reality of how dependent we are on the system that has evolved, and how difficult it may be to change quickly.

Cities will continue to be large energy users, but transportation is one area in which our record of conservation and wise use can be improved dramatically. Even such simple actions as establishing convenient bicycle paths and pleasant spaces for pedestrian use in connection with existing green spaces could encourage people to abandon their cars for at least part of the year. Rather than continuing the traditional design approach of trying to reduce physical effort (through shortened distances, use of vehicles and mechanical devices such as elevators, and so on) we might consider designing to promote, not avoid, the use of the body.

Preservation of Open Spaces

Spending time outside, whether it is structured time, such as gardening or picnicking, or just soaking up the sunshine, helps to re-energize us and provides opportunities to observe what is going on around us. These experiences are valuable for visitors or newcomers to a city as well as for residents. The feelings and impressions people have about a place are strongly linked to the things they see, hear, and feel — whether the city assaults or soothes their senses. The natural environment, the landscape, and the built heritage of a city interact to shape the urban "personality;" they can make visitors and newcomers feel welcome or wary, and these components also shape the attitude of those who live in the city. This sense of place — respect for and commitment to the local place in which we live — is "the join between the form of the environment and the human processes of perception and cognition...[and] lies at the root of personal feelings about the city" (Lynch 1981: 131).

Environmental factors, in their broadest form, contribute to this sense of place, and open spaces and parks are among the most significant.

These land uses balance the other uses around us in cities and help to meet many of the needs of urban residents. Open spaces should be accessible and able to accommodate a variety of uses; for example, recreation has been used as a major justification for many parks and open areas in the past, but it is not the only possible use. Whyte argued that multiple use of urban open spaces is essential and that

...with ingenuity, we can make smaller spaces seem larger; we can find ways to link them and to emphasize their continuities; we can make them far more accessible to people, and if not to the foot, at least to the eye. It is the effect of open space we are seeking, not just the space, and with this approach a given acreage of open spaces can be knit into a pattern more pleasing, more useful, and seemingly more expansive than a far greater acreage laid out in conventional fashion (Whyte 1968: 396).

The edges of natural and open areas make an important contribution to creating a sense of spaciousness, and even though the total area may not be large, the effect of being near the edge encourages use and helps to meet peoples' need for space. Many communities in Alberta were established along watercourses, and have focused on this natural feature in establishing protected areas. The ecosystems that have developed in and along the rivers offer opportunities for urbanites to observe the cycles of nature and a chance to re-acquaint themselves with something other than the manicured "pedigree" landscapes that tend to characterize city spaces.

Open spaces meet many needs in urban areas, and it is essential that they be maintained. These spaces for recreation, entertainment, observation and reflection help to make cities pleasant places to live and fun to be a part of: they provide opportunities for a variety of other events, many of which can make a continuing contribution to the local economy and development of civic pride. Edmonton, for example, has made very good use of its system of parks and open spaces as venues for several major events: Heritage Days, the Folk Festival, the Fringe theatre, and Winter Carnival festivities.

With a relatively short history of settlement in Alberta, there has not been much time for our cities to evolve and develop their own unique character, a feature that often typifies older settlements. Thus, the legacy of our natural resources takes on even greater significance. With most people living in urban areas, first-hand opportunities to observe and experience nature on a regular basis are limited. Protecting our natural areas, managing only as required to make the most of the natural features, gives more of us a chance to make connections with our surroundings.

Possibilities exist to establish trial plots for native and introduced varieties of plants, which would enable urban gardeners and landscape architects to identify potential garden and landscaping species. Encouraging less maintenance of verges and other grassy areas could enhance wildlife habitat while reducing costs to city departments. Most people enjoy the experience of seeing wildlife and observing natural changes around them, and efforts should be made to encourage these activities. Small things can make a difference, too, in how people remember these experiences; for instance, even the type of material used to construct a path can have an effect: if it is inconspicuous and congruent with the surroundings, yet accessible, the positive feelings of visitors are likely to be enhanced. Designing new buildings that are compatible with the environment and become a part of the surroundings, rather than trying to mould the surroundings to fit with structures, should be paramount in our planning.

The Outdoor Built Environment

"Built" public places can also be effective in meeting our need for open space if they are designed with respect for the surroundings and an appropriate sense of scale. When the built urban environment is designed to be physically attractive, and in a way that encourages people to use it, many other aspects relating to quality of life will fall into place. The design of the buildings themselves is important, but the use and design of spaces between and around them is equally important. Many old European cities exhibit these

characteristics in the places where people have gathered for centuries to barter, chat, argue, play, or simply catch some sun. Such places offer a multitude of experiences for those who frequent them, providing a strong sense of continuity with previous generations, and a reassurance of our humanness.

Such "people places" need not be old to be successful, but the same respect for scale and sensitivity to human needs are in order. Studies show many elements contribute to the way people perceive their surroundings, and that there are distinct patterns "which seem somehow to have definite links with joyful experiences" (Hiss 1987a: 51). Some of the stronger patterns include: pedestrian streets, sunny places, identifiable neighborhoods, accessible green spaces, and a four-story limit to the height of buildings (Hiss 1987a: 51).

To enhance the experience of public open spaces, it seems there are at least two basic needs: first, people need to be able to find a small place to sit or stand without being bothered or bothering anyone else; second, they need reasons for going to a particular place, and the more reasons they have, the more secure they feel and the more time they will spend there (Hiss 1987b: 83). Toni Sachs Pfeiffer, who worked on open spaces in Frankfurt, Germany, tried to cram in as many nooks and crannies and as many

There is a strong need to be more sensitive to the way parks are being designed and developed and not just to the amount of space that is being provided.

reasons for being there as she could, with the result that a stodgy city was transformed to one with a complex metropolitan character and dash (Hiss 1987b: 83). This attention to detail and user needs can make a tremendous difference in the way people perceive their open spaces and consequently in the extent to which they use them.

This illustrates the strong need to be more sensitive to the way parks are being designed and developed and not just to the amount of space that is being provided. As our population ages, the need for access to open spaces and assurance of personal security while using them is likely to become a more important issue.

Our parks and open spaces, particularly those designed around natural and heritage features, immediately reveal some of the character of an urban place and its priorities. These are the formal or "structured" spaces, those with a name, existing as distinct places on a map of the town or city. But the less formal, often unnamed places are sometimes the most delightful and rewarding in terms of the experience they provide. These experiences can occur in childhood as youngsters explore the creative possibilities offered by a local vacant lot or ravine. As adults who have become more inured to our surroundings, it is especially exciting to be surprised by a view, an odor, or a sound at a time or place we least expect it. This experience is common to tourists who are willing to strike out on their own in a new place, and often the memories of serendipitous experiences — a sunset on the river, a patch of wildflowers in a tiny park, fresh bread from a neighborhood bakery, an old cemetery overgrown with trees and vines — are the ones that linger.

Such experiences are also possible in our own cities if we are willing to allow ourselves the chance to perceive them. These perceptions and experiences influence the way we interpret and relate to the rest of the world; they contribute to the diversity of experiences available in the city and it is important that they are not overlooked in our attempts to create modern and "efficient" cities. Hiss points out that "through one system of perception we see ourselves as observers of an environment composed of separated objects, but, at the same time, through another system of perception, equally active, we look for ways in which we

are connected to or are part of our surroundings" (Hiss 1987a: 54).

An important influence on Alberta's cities is our continental climate, in particular a long winter. This has implications for many facets of urban planning and design, shaping the appearance and character of our cities in a variety of ways. We have tended to import many of our designs from warmer climates and then attempt to modify them to suit Alberta conditions, but maybe we are at last beginning to recognize both the reality and the potential of winter, and the fact that we had best learn to accept it. As we find more energy-efficient building techniques and learn to incorporate the demands of winter into our planning stages, we and other northern communities around the world can look forward to urban environments that are interesting and accessible in

all seasons. The "Winter Cities" conferences represent a formalization of our increasing rapport with the realities of northern living.

Conclusion

This chapter has focused on the concept of sustainability as it applies to urban places. Maintaining a physical environment that can continue to meet our need for water, food, space, and shelter is an important part of sustainable, vital urban places. Although controlling or preventing pollution will help to protect the physical environment, that is not enough. A long-range vision is required, against which we can measure the success of our growth management strategies, to make sure that Alberta's urban places are places where people **want** to live.

INTERACTIONS OF URBAN PLACES

The Alberta Conservation Strategy project stresses the need to recognize and deal with the interactions of competing resource users. Alberta's urban areas and urban residents interact with virtually every other sector of the economy. Some of the ways in which decisions are made about these interactions are working well and, in other cases, poorly. But within the urban community itself, there is a clear need for residents to realize the potential for their communities to be vital, self-sustaining, and pleasant places to live. Urban places will be the residence of choice for more and more people the world over. We still have much work to do to achieve the goal of sustainable cities, but it is a goal that should be a source of pride for all citizens.

Decisions that are made in urban places can affect the hinterland as well as the urban community, and the reverse also is true. Decisions made in foreign boardrooms often have implications for all Albertans. And decisions are made daily about interactions within the urban community itself. This chapter will explore some of these interactions: interactions with the immediate and distant hinterland, within urban communities themselves, and interactions in a broader perspective.

Interactions with the Hinterland

Land Use

Land use has received particular attention in Alberta in the last decade as many towns and cities grew quickly, requiring additional land for housing, industry, services, and transportation. Settlements originally were established in areas that also tended to be suitable for agriculture, so it is

not surprising that this competition for good land should intensify. Features such as good drainage and level topography that make land highly suitable for farming also make it desirable for urban development.

A large portion of the best agricultural land (CLI 1-3) in Alberta is concentrated in the Edmonton-Calgary corridor, with much of it being right around the cities of Edmonton, Calgary, and Red Deer. Thompson (1981) reported that between 1961 and 1981, a significant amount of this land was lost to urbanization as the province's population grew. Not only were larger centers growing, but rural land around smaller towns and cities was also being subdivided for country residential development. Rural land was annexed both for expansion and to facilitate jurisdictional control during the 1960s and 70s. Thompson (1981) looked closely at the acreage and quality of land annexed to urban municipalities for three years, 1977 to 1979, and found that the total for this period was 69,741 acres, and 75 percent of this was Class 1-3.

Although it is not always easy to do, good agricultural land within and adjacent to urban areas should be kept in production right up to the time of development. The establishment of market gardens and other types of intensive operations near urban consumers is one possibility for such lands. Productivity of the land is less important for most urban and industrial activities, so where possible such development should be directed away from the better agricultural lands. Occasionally it also happens that land with scenic or potential recreational value is annexed, so perhaps such land should be considered for residential development rather than industrial uses, as has occurred in some areas around Calgary.

Conflicts created by country residences in active farming areas, often with intensive livestock operations, have been well documented; cases have actually gone to court in Canada over nuisance odors, noises, and so on associated with agricultural operations, to which newcomers object. One result has been the inclination of governments to look at right-to-farm legislation (Agricultural Operation Practices Act c. A-7.7, SA 1987).

When land is urbanized, there is also an inevitable loss of wildlife habitat. Land can be cleared and, with some effort, even drained to provide space for new subdivisions on the edges of cities.

The establishment of natural areas close to urban centers provides convenient opportunities for field trips and other types of learning experiences, particularly for children. However, such activities must be carefully managed and co-ordinated, as popular areas can be damaged by overuse. Restrictive measures might then be required to protect the most valuable or vulnerable sites, such as those with important species or unique habitat.

Another example of land use interactions is the development of sanitary landfill sites. Recently there has been a great deal of local controversy, particularly in areas where major population centers are in need of a new landfill site. No one wants such a site in their community and this issue can create dissension within and around urban places, as happened in Edmonton, where some communities were considered potential targets for such a development.

The widespread opposition to such sites and the recognition that we must accept some responsibility for our wastes is leading more people and their elected representatives to look seriously at the feasibility of recycling, incineration, and other alternatives to sanitary landfilling.

Although efforts have been made to involve interested and affected parties in the decisions surrounding land use, such issues often become divisive, sometimes creating splits within the community and conflict on the local council. Nevertheless, more attention has been paid to both loss and deterioration of good agricultural land in recent years, with recommendations to both the federal and provincial governments about what might be done to maintain our agricultural land base, both quantitatively and qualitatively.

Water and Air

Competition for the use of water and air is important too, but sometimes less obvious. With water, downstream users are rightfully concerned about the use and treatment of water by those upstream. Although the pressure tends to be on cities to maintain the condition of water below them, those communities downstream of agricultural and industrial users also have legitimate water quality concerns. One advantage that urban areas do have is that economies of scale afforded by the concentration of people and industries mean that water treatment can be carried out more efficiently and economically than for scattered, non-point sources.

The traditional approach has been to search for ways to increase supply, when a more cost-effective approach would be to reduce demand.

Especially in southern Alberta, the quantity of water available for consumption is also becoming an issue for both urban and rural residents. The traditional approach has been to search for ways to increase supply, when a more cost-effective approach would be to reduce demand. Competition between urban, agricultural, and industrial water users is likely to intensify, while there will continue to be a need for adequate sup-

plies of clean water to meet recreational needs and to ensure that aquatic habitat is maintained.

Many of Alberta's larger urban communities obtain water from surface sources, while most towns and villages, as well as rural residents, rely on groundwater to meet their needs.

Urban air quality in Canada has improved significantly since the 1960s and early 70s, and progress continues to be made, although improvements appear less dramatic (Environment Canada 1987). In general, Alberta's atmosphere does not suffer from the pollution experienced in places with heavy industrialization. Calgary and Edmonton, however, have both been among the national leaders in concentration of suspended particulate matter and concentration of nitrogen dioxide (Bird and Rapport 1986). Transportation emissions are the major source of oxides of nitrogen, and either Calgary or Edmonton had the highest annual mean concentration from 1979-1982, the last year for which figures are available. It is likely that much of the particulate matter, which was especially high in Calgary is related to the winds and dust that commonly occur in and around the city.

There are other concerns in Alberta about the proximity to developments that extract or process fossil fuels and which produce atmospheric emissions. This is likely to be a continuing issue as new plants are constructed in the settled areas of Alberta. Citizen awareness of the potential hazards has increased as a result of events such as the 1982 Lodgepole blowout and an incident in 1987 involving the release of gases from a fertilizer plant in southeast Calgary.

Our ability to reach agreement on appropriate safeguards may be improving, as evidenced by such cases as Hewitt Oil's new sour gas processing plant in the Golden Spike area west of Edmonton. In this case, the company, local residents, and the ERCB all participated in deciding how the development should proceed. This type of industrial development, in which environmental and social considerations along with economic aspects are addressed in the planning stage, should be done

as a matter of course. (More details on this case can be found in *Resolving Conflict: A Case Study*, a discussion paper in the Alberta Conservation Strategy series.)

On a more global basis, there is now much concern about our planet's deteriorating ozone layer and the so-called "greenhouse effect." These are good examples of the cumulative impact of many small decisions, and we should be aware of our contribution to this truly global problem that could affect each and every one of us. Adding to the seriousness of such atmospheric concerns is the scientific uncertainty about the scale of the problem and its direction, particularly in the case of atmospheric carbon dioxide build-up. Scientists generally are of the opinion that our climate will change, but exactly how and where are difficult to determine.

Social, Cultural, and Recreational Interactions

These categories of interactions are also very important, and often are so much a part of our activities we do not even think about them. Many people commute daily between an urban place and an adjacent area. Rural residents may send their children to schools in the city, visit museums and galleries and attend sporting events, or take advantage of medical or other facilities. Those who live in the city likewise may choose to spend some of their active and passive leisure time in the country, engaging in a variety of activities.

The rural ties are still fairly strong in Alberta, as many urban people are just one or two generations removed from the farm. Much of the attraction of the west has been based on our open spaces and other features associated with a rural environment. The images of big skies, expansive prairies, grain elevators, and rolling foothills are part of Alberta's culture, and part of our drawing power as a tourist destination. The Calgary Stampede and rodeos in many other Alberta communities continue to be popular events, capitalizing on parts of the province's past and focusing on a lifestyle that still exists today.

Many of the recreational activities Albertans engage in also reflect our rural roots and love of

the outdoors. These activities can sometimes result in conflicts between recreationists and landowners as a result of trespass, litter, or vandalism. This is not strictly a rural/urban conflict, as the relatively few people who show no respect for the property of others are found in both rural and urban settings.

At least part of this problem has to do with the question of availability of and access to land suitable for recreation. This is discussed in detail in the parks and outdoor recreation background paper in this series. The point here is that as urban areas expand and more people seek the pleasures of the outdoors and wilderness, pressure on public land and parks will grow. There already have been conflicts along the Bow River near Calgary; access is now limited as a result of extensive private ownership of land along the river. This whole issue needs a great deal of public discussion to find ways to meet demands for recreation without hindering legitimate land use by others. Some programs are already in place to ease the conflicts between landowners and lessees of public land and potential recreational users of the land; the Use Respect program, developed with input from government and non-government organizations, is one example. The owner or lessee is identified on signs posted at the boundary of the land, and those wishing access are urged to contact the landowner or lessee for permission and to act responsibly while on the land. The 1987 report of the task force on grazing lease conversions contained useful suggestions for ensuring access to land under grazing dispositions; among their recommendations were that foot access be allowed at all times, and that vehicle use be restricted to established roads or designated routes, or with permission of the occupant, allowed on off-road lands.

Economic Interactions

Many small towns in Alberta grew up and still depend on serving agriculture and other

resource-based industries. Larger centers provide a greater variety of goods and services, markets and processing facilities for products, and employment opportunities. On the other hand, the resource industries provide a basis for business people who may wish to start a business related to local forest, agriculture, or mineral extraction activities.

The economic interdependencies will surely increase as we move further into the "information age." Alberta's natural advantages mean that we will continue to rely on our resources — oil and gas, forest products, agriculture, tourism attractions, and so on. Although these resources are located in the hinterland, the technology and information to enhance their extraction, production, processing, marketing, and transportation are likely to originate in the universities and research centers of our urban places. It is the application of this research and technology that will hold the key to our future competitiveness and our future wealth.

Human resources will play the central role in shaping Alberta's future, and the opportunities

With few exceptions, there are no purely "rural" or purely "urban" issues.

to be found in our cities will in turn shape the development of future generations of researchers, scientists, and many others with creative talents to offer. The development and refinement of technology for our own advantages is possible in Alberta, if we can ensure that talented and innovative individuals want to live in our province; the quality of our cities will be a big factor in accomplishing this.

Conclusion

These examples illustrate that, with few exceptions, there are no purely "rural" or purely "urban" issues. Urban and rural communities have always

been closely interconnected, although at times the relationship has been less than harmonious. Nevertheless, the social, economic, and political links exist; this linkage is unlikely to change, and could in fact be strengthened. Alberta's advantages today are the legacy of our past — fertile soils, rich fossil fuel deposits, and an abundance of diverse natural features that provide us with physical, recreational, and aesthetic necessities. It is up to urban and rural residents alike to ensure that these resources are managed and maintained to the best of our ability.

Interactions Within Urban Places

Many of the same types of interactions described for the city and the hinterland — land use and development, resource use, and social, cultural, recreational, and economic interactions — occur within the urban community itself. Interactions within urban places have to do with the way urban people elect to manage affairs within the urban boundaries and the way priorities are established to deal with things that could affect the well-being of the urban community as a whole.

For example, the ways land is used in urban areas are many and varied, and these decisions can be contentious and complicated. Whether or not land should be developed at all, what uses should be permitted, and other questions can involve a host of interests. The type of development that is allowed can influence the future vitality of an area; negatively, it can create concerns such as those mentioned in the chapter on sustainability: noise, lack of open space, traffic congestion, and so on. Positively, it can create economic opportunities and enhance the diversity of the community. This list of interactions is not comprehensive, but is intended to stimulate discussion about why we do what we do in urban places. Some of the factors influencing the decision-making process itself are considered in the next chapter.

Historical and Archaeological Resources

Our historical resources are evident in both the natural and built environment, and our attitude

toward preserving and protecting these resources influences the character of our urban areas. Historical resources tell us and visitors something about our past; they help to explain why we are what we are today, and they can even help us to think about what kind of future we want; in essence, they maintain continuity. Alberta is such a young province that we are still feeling our way in matters relating to preservation of our historical resources, particularly those that are part of the built environment. As with our natural heritage, we need to find the right balance to meet the needs of both conservation and development.

Archaeological sites offer information about our human heritage, and these too should be carefully evaluated with respect to protection and preservation. Burial sites, teepee rings, and other artifacts are sometimes found in unexpected places, and often people may not even realize what they are or what their significance is.

The way in which our urban places have developed reveals many things about an area's culture and technology at a particular point in time. In recent decades, there has been considerable pressure for urban redevelopment, and the areas targeted are often older neighborhoods close to the downtown core, or parts of the core where it is believed that old buildings are not as valuable as newer ones would be in attracting tenants and new business. We need to ensure that, in our zeal for bringing in new economic opportunities, we don't eliminate parts of our heritage that are irreplaceable.

In addition to providing variety and character to our urban places, the atmosphere engendered by older buildings is often felt to be more comfortable and welcoming. Few tourists, for example, come to visit office towers or bank buildings. However, walking or driving through older parts of our cities with big trees and examples of the architecture of our early settlers is a lot more interesting and gives people some of the flavor of our urban places and stages in their growth. When development can occur while we at the same time maintain the essence of these historical resources, we will have achieved a major

breakthrough. The success of Heritage Canada's Main Street program attests to the value people place on their built heritage; while the major thrust of this program has been in smaller urban places, larger centers might do well to listen to the message too. The success of developments such as Old Strathcona in Edmonton and Louise Crossing in Calgary indicate the potential is there to create unique and interesting urban environments by a combination of conservation and development, which is the essence of Conservation Strategy objectives.

Open Spaces

As discussed in the chapter on sustainability, parks and open spaces are an important part of the urban ecosystem. A unique provincial urban parks program to date has expended in excess of \$150 million for major improvement or establishment of parks in the cities of Calgary, Edmonton, Red Deer, Lethbridge, Medicine Hat, Grande Prairie, and Lloydminster. This program has been very successful in all of these places, and is a model for other jurisdictions in Canada and the world. These open spaces provide recreational opportunities and preserve a variety of natural and historic sites. Providing recreational opportunities close to home makes it easier for urban residents themselves to experience nature in all seasons. Urban parks and open spaces are likely to become even more important for older people and for families with young children who may find it difficult to get further afield.

In almost all the major cities of Alberta, there are still extensive and attractive lands in an undisturbed state. This land should be protected from more intensive use. Some urban parks do include relatively undisturbed ecosystems, but the designation of urban natural areas should be specific and separate from the category of "park."

Alberta is making good progress in protecting our natural heritage in areas that are remote from cities, but the need is just as great in urban areas.

The mental sense of connection with nature...is a basic human satisfaction...the urban

landscape can convey [this] intuition...and this is not simply a matter of saving plants and animals, but of making their presence apparent (Lynch 1981: 257).

Most species of wildlife fare rather poorly in urban places. Potential conflict with humans and inadequate habitat simply push many animals out to adjacent rural areas. Exceptions are places with corridors of less disturbed land (such as the Whitemud ravine in Edmonton) where deer, coyotes, beavers, rabbits, and other small mammals are found. Birds also are an exception, taking advantage of convenient food supplies and, in the winter, the slightly warmer air temperatures of cities. Residents can assist wildlife populations and help to increase species diversity in urban places by reducing or eliminating pesticide use, planting a variety of flowers to attract different birds and pollinating insects, and setting out bird feeders, for example. These activities and some of the theory behind species preservation are discussed in *Reserves for Nature*, another paper in this series.

Native plant species also tend to be restricted in urban places. Many of these are well adapted to local growing conditions, but are less showy than cultivated varieties, which are preferred for their flowers, foliage, or growth form. Herbicides often are used in open areas such as school yards, parks, and golf courses where non-grass species are not wanted. However, there are native species that are naturally slower growing, are good competitors, and require little or no maintenance once they are established. With some effort and research, such plants might be considered for many areas within urban communities.

Land Use

The pressure for redevelopment of our historical resources as well as the need for adequate urban open spaces have already been identified as important land use related issues. But there are other urban land use issues: the deterioration of older, established residential communities as a result of the "downstream impact" of new, rapidly growing suburban communities, particularly

the impact of increasing traffic volumes; the encroachment of commercial and retail development into residential communities with resulting problems of congestion and noise; rapid growth and change in our downtown cores, resulting in very uninviting urban spaces where people do not want to go other than for work; potential problems with future development of land contaminated by previous industrial activities; determining the best use for existing sanitary landfills when reclaimed; and the impact of upgrading and widening major roads and building rapid transit systems through existing communities.

Conflict between adjacent land uses can arise not only from a change in the type of land use (for example, residential adjacent to commercial) but from the impact of poor building design, buildings that are too high with respect to adjacent development, and inadequate landscaping and parking facilities. If poorly designed, development can have a permanent negative impact on the "urban landscape." Also, urban land use must be viewed as having both two and three dimensional impacts.

A successful integration of different urban land uses is one of the fundamental requirements to ensure the future comfort, safety, and enjoyment of people who live in our cities.

Community Identity and Satisfaction

The interactions that occur in urban places are of course influenced by the people who live there and what they see as long-term goals for their community. These, in turn, relate to the commitment they have to the place where they live. Many people, and perhaps especially Albertans, have moved frequently during their lives and may not have experienced important events that shaped the community in which they now live. It takes time to develop a strong sense of place, and things have changed very quickly in our province in the last 10 to 15 years. In fact, Lynch could have been thinking of Alberta when he stated:

Rapid growth means constant turmoil, facilities which are ill fitted to demand, and institutions

whose capabilities constantly lag behind the need for them.... Events seem out of control, and decisions may be made badly under stress. Most serious, perhaps, are the constant breaking and remaking of social ties that is required and the political conflicts that arise between natives and newcomers (Lynch 1981: 251).

If oil prices should happen to rise dramatically again, we could find ourselves facing the same conditions that gave rise to the social and economic turbulence of the late 70s and early 80s. It is to be hoped that this previous experience would help us cope better the next time.

Community identity can be further hampered by the fragmentation in many peoples' lives. For most of us, our working life is separated from our home life, both temporally and spatially; our places of education, entertainment, and recreation are likely to be distant from both home and work; and when we take a vacation, more and more people travel someplace else to visit family or friends, or to get away and see something new. These circumstances, made possible by our increased mobility, can make it more difficult to become attached to a neighborhood or community, and thus people are less likely to want to become involved. Our patterns of living may have changed our perception of neighborhood, and perhaps we need to find ways to adapt to this while still maintaining our social continuity.

Community satisfaction also influences the way decisions are made and how interactions are handled. A study published in 1982 by Atkinson and referred to by Peter McGahan in his book *Urban Sociology in Canada* (1986) attempted to measure the satisfaction of people living in 23 major Canadian centers. Data were collected during the period of most rapid growth in Alberta's recent history, and the dissatisfaction of Edmonton and Calgary residents with the quality of life in their cities was apparent. Among the indicators of dissatisfaction were roads, traffic conditions, public transport, housing costs, the general size and appearance of the city (of Calgary), and crime levels. Overall, those attributes of Canadian cities residents most frequently assessed negatively

were road and traffic conditions, pollution, and local government.

There are of course many aspects to each of these, but pollution and other concerns are things over which people often feel they have no control and no opportunity to influence the way decisions (which will influence them) are made. If ways could be found to encourage additional citizen participation in resolving urban conflicts, perhaps better solutions would be found, and people would have a chance to have their say in decisions that affect them, a process that tends to result in increased acceptance of and satisfaction with the eventual outcome. Public participation tends to be cyclical, and it is usually opposition to a proposal that stirs people to get involved.

A example of constructive public participation occurred during the urban parks planning process mentioned earlier.

Waskasoo Park in Red

Deer is an especially good example of how citizen involvement early in the planning process resulted in a design that the local residents liked and that met their needs; conse-

quently, this park and others handled in the same way are well used and well maintained.

One aspect of Alberta's communities that is very positive is our tremendous spirit of generosity and volunteerism. On a per capita basis, Albertans regularly are at or near the top of the national scale in charitable donations. The contributions of time by individuals and groups for a variety of causes, from the Christmas Bureau and local community activities to major international events such as the Olympics and Commonwealth Games, suggest a personal commitment to the community that bodes well for our future.

Larger Scale Interactions

Urban places interact more broadly — with the province as a whole, the country, and the rest of

the world — in many areas, some of which have already been discussed. Alberta already depends heavily on trade, and the movement of goods and people between our province and the rest of the world is certainly going to increase. Along with trade, tourism and immigration policies will shape our relationship with others.

Census figures reflect the growing numbers of immigrants from around the world who have chosen Alberta as their new home. We are trying to find ways to use the talents, skills, and experiences that such people have to offer to enrich our society and broaden our perspective, and to try to avoid the sorts of cultural conflicts that have been so divisive in other parts of the world.

Urban places have been and will continue to be a key part of Alberta's tourism industry. Both of the major cities have tourism associations that promote visits to Alberta through conferences and other means. For example, the international

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winter cities conference was held again in Edmonton in 1988 and brought people from all over the world. The 1988 Winter Olympics in Calgary brought thousands of visitors to Alberta, many of whom undoubtedly took this opportunity to ski in the mountains, do some shopping, or visit other Alberta attractions.

Our natural historical resources have a major role to play in the tourism industry too. One of the most famous sites is the Badlands around Drumheller, the source of dinosaur fossils that have given Alberta a world-class reputation. The Tyrrell Museum, which showcases this natural history, has been phenomenally successful in its first year of operation, attracting visitors from all over the province and from around the world. The new interpretive center at the Head-Smashed-In Buffalo Jump near Fort Macleod also promises to

be a popular spot. Parks Canada data indicate that, since 1981, visits to National Historic Sites have more than doubled; this trend is supported by statistics from Alberta Culture that also indicate increased public interest in heritage resources. These attractions can be a major contributor to the economy of the area in which they are found by drawing tourists and creating a diversity of jobs in related service industries. They also serve to draw people who are interested in the research aspects, building the province's reputation as a center for advanced study.

Urban tourism also has the potential to reduce some of the pressure on more remote destinations by offering tourists an alternative. Certainly many other cities around the world are themselves tourist attractions — Rome, Paris, London, Athens, and, closer to home, Quebec City and Vancouver traditionally have been popular tourist destinations, although for quite different reasons. Alberta's two major cities are increasing their efforts to draw tourists. The more cosmopolitan, high-profile attractions such as West Edmonton Mall, combined with our traditional tourist lures of wilderness and open spaces, and unique advantages such as the Tyrrell Museum, mean that a visitor can come to Alberta for a wide range of experiences. Urban places need to recognize the importance of appealing to tourist interests to ensure that people will want to return.

The twinning of cities in Alberta with urban places in other parts of the world also brings us in contact with different cultures and approaches. Whether the commonality is climate, sports, commodities, or language, we are learning about how people somewhere else deal with their problems and find solutions; this interaction can be a win-win situation for everyone.

The Importance of Integrated Planning

The physical city exerts a significant influence on many aspects of urban life, yet harmony between the natural and built environment is difficult to achieve. Unfortunately, design often is dictated more by perceived immediate needs and financial

situations than by longer term considerations. The ultimate end use of a building or group of buildings may be quite different from the original intention. As with other forms of environmental planning, we would be wise to keep open as many options as possible when designing for the urban community.

While there is some thought given to the design of our urban areas by planners, engineers, and elected officials of our civic government, the actual process of development of the physical environment frequently does not follow the design concept for various reasons. The current process of development generally is carried out by a number of individuals or agencies that often have little respect for each others' requirements, and there can also be a great reluctance to forego a small amount of private advantage for a larger public purpose. In large part, this arises from a lack of consensus about what constitutes a public benefit.

Our urban design processes as a whole suffer from a lack of integration. We can expend a great deal of effort on a particular building or even a room within a building, yet ignore the links of this nucleus with its surroundings. What about the connecting spaces — the streets, corridors, and parking lots? To take this one step further, we design new communities or subdivisions within the larger urban area, frequently ignoring or making major modifications to any overall plan for the city as a whole. As a result, there is a hodge-podge of development and, when this happens quickly, mistakes can be repeated.

This compartmentalization of interests and responsibilities is not confined to urban places. Indeed, it occurs in every sector and is equally problematic. The same symptoms appear: fragmentation and pigeonholing of information, independent decision-making (often on a case-by-case basis), and little effort to construct a larger, overall integrated plan whereby the effects on one decision are considered before others are made. For instance, a developer may be interested in how to subdivide a parcel of land to maximize density; engineers might be concerned about ensur-

ing adequate drainage and street width; a builder is likely to be concerned only about the particular structure he is working on, not necessarily about the surroundings; and city administrators may be primarily concerned about adherence to building bylaws and subsequent tax revenue.

Morris is optimistic that our new awareness of the interrelationships of different parts of the urban environment could lead us to abolish our pigeonholes and compartments. "Sanitation systems, water systems, energy systems, communications systems could all be seen as a part of a comprehensive whole, a natural resource utility" (Morris 1982: 208).

Environmental affairs are noticeable by their absence in urban planning documents generally. Issues such as noise, waste management, and so on are simply not considered. Other environmental matters (relating to wildlife, protected areas, etc.) now tend to be treated rather superficially and deserve more than one or two pages of "shoulds" and "mays." An essential prerequisite is the development of consensus on what constitutes a desirable urban environment — a vision to guide urban development and conservation.

Alberta has been a Canadian leader in the planning field, with the regional planning commissions being a unique phenomenon responsible for many of the attractive features of Alberta's urban places. A detailed analysis of the planning system is beyond the scope of this paper, however, and there is a great deal of literature available for those wanting more information on planning institutions and processes. Please consult the bibliography for references.

Conclusion

Urban interactions with other sectors are varied. Nevertheless, the direction for these interactions is something over which we as thinking and creative beings have some control. The way our

decisions are made and the way we assign priorities influences these interactions. In many cases, past decisions that have proven to be mistakes can be altered if we have a better way. For example, in some circumstances, de-annexation of land that is not expected to be required might be considered as a means of maintaining productivity of the agricultural land base.

Where traditional ways of doing business exist, it can be very difficult to change set patterns of thought and action. A great deal is already known about the causes of and potential solutions for many of these problems, yet the application of this knowledge lags. Although we can predict or anticipate some environmental problems with great reliability, we tend to be slow to try and head them off. We know, for instance, that a landfill site will some day be full, and we can be reasonably accurate as to the time. We also are, or should be, aware that locating new sites will be difficult. But recycling is still slow to catch on. We know too about the problems of air quality in cities and the links with transportation emissions, yet most cities have done nothing to discourage the use of private cars, relying instead on federal emission controls.

We should perhaps take a broader perspective when our urban places are being developed or redeveloped, to take into account the irreplaceability of historical resources and their value, both aesthetically and economically. And what about the need to design in three dimensions? Is it important that we consider the shading and other effects of tall buildings, particularly in residential neighborhoods, when allowable land uses are being reviewed? As home to most of Alberta's population, what can urban places do to encourage responsible and environmentally appropriate behavior in their citizens?

INSTITUTIONAL ARRANGEMENTS AND THE DECISION-MAKING PROCESS

There is a long history in Alberta of active local government and citizen participation. This level of government provides the most direct opportunity for people to participate in democracy, and contribute to the decision-making process. This is hard work, and it is no accident that non-democratic forms of government predominate in the world — it is considerably easier to impose decisions on the citizenry than to involve them in consultation and compromise. Moreover, the distribution and application of power are important factors in influencing decisions and shaping policy. As local officials well know, the ability to influence decisions and shape policy often rests with those who control or have access to resources, particularly financial resources. Although not the only factor, this matter of fiscal responsibility and financial autonomy underlies many of the problems facing local governments and deserves particular consideration in a discussion of sustainability.

This is relevant to the Alberta Conservation Strategy process in that urban places must be environmentally sustainable as well as economically sustainable; here, as in the management of other ecosystems, the two go hand in hand. The institutions we have in place to do the managing affect both the economic and environmental sustainability of our communities. Allocation of resources (financial, human, and biological) is an important part of local decision making; this chapter will explore briefly some aspects of making these decisions in Alberta and, we hope, provoke some thoughts about how we can improve our ability to manage in a sustainable fashion.

Local government takes many forms, but the discussion in this chapter will focus on urban municipalities and some of the avenues open to them. There are also various single-purpose agencies in Alberta, all of which play a part in the local decision-making process; among these are school boards, hospital boards, library boards, irrigation districts, drainage districts, police commissions, and others. For a more complete discussion of these specialized agencies, as well as for details on counties, municipal districts, and improvement districts, the reader is urged to examine the works by Masson (1985) and Walchuk (1987) listed in the bibliography.

The Economics of Local Government

Activities and Responsibilities

Despite provincial legislation defining the areas in which a municipality may operate, there is discretion as to how these operations can be conducted, and in fact municipalities are actually required to perform relatively few functions (such as the preparation of an annual financial statement).

Masson notes that local governments tend to act in areas with which the public is familiar: taxing, planning, and providing a variety of services. Traditionally, services are provided by government either because they are uneconomical for the private sector, or because they are essential to the well-being of the citizenry and no one should be denied them through an inability to pay.

The importance of volunteers, in their many capacities, is apparent in the provision of many

services that, for whatever reason, are not provided by the public or private sector. Meals on Wheels, the food banks, hospital auxiliaries, and many, many others rely heavily on volunteer support to meet a real need in the community.

Managing a municipality has become more complex and costly as the variety and number of services offered by local government have expanded. Furthermore, the decline in Alberta's economic fortunes after the boom of the 1970s has made local government quite aware that its ability to govern is directly related to council's ability to skillfully manage local affairs. This means adequate revenue must be generated and spent efficiently.

There are several broad categories of activities for which local governments have assumed responsibility or in which they play a major role. These include housing and land development, transportation, fire and police protection, garbage collection and disposal, water and sewage services, public health and welfare, recreation and

Managing a municipality has become more complex and costly as the variety and number of services offered by local government have expanded.

culture, and economic development and tourism (adapted from Masson 1985). In some cases, such as policing, garbage disposal, and water and sewage, there are attempts to ensure that at least a minimum level of service is available to all Albertans.

Every Alberta municipality with more than 1,000 people and every county and municipal district with 10,000 or more is required to have a general municipal plan describing the municipality's land uses and proposals for future development. Planners with Alberta Municipal Affairs and those with the regional planning commissions work with municipal councils to prepare these plans and write land use bylaws. The larger municipalities (including Calgary, Edmonton, Lethbridge, Leduc, and St. Albert) are permitted

to do their own planning and subdivision approval and have planning departments for that purpose (Masson 1985). With passage of the Planning Act in 1977, municipalities were given more discretion in the planning process to ensure that specific local concerns could be addressed.

Another service performed by local government is ensuring water delivery and sewage treatment. Many of Alberta's communities obtain their water supply from rivers, which means that downstream users rely on those upstream to have adequate treatment facilities for their waste water. Such facilities tend to be quite costly and sometimes it can be difficult to convince decision-makers to install appropriate equipment when their community does not benefit directly. In these cases, the Province usually provides assistance to ensure that the interests of downstream users are protected. Communities that are downstream from agricultural operations are in a somewhat less advantageous position, since there is no protection from agricultural runoff except the natural assimilative capacity of the watercourse.

Another important water-related issue is pricing. The costs of delivering and treating water are not calculated in a standard way by all municipalities. Charging flat rates for water use does not encourage conservation, thereby placing an additional burden on water treatment plants. Conservation is further discouraged when the cost per unit of water is reduced for large users; this can mislead communities into thinking that the overall supply should be increased, when a better approach might be to encourage reductions in demand. This issue will become even more important as populations grow and competing demands for water increase.

Activities in the realm of health and welfare were initially the sole responsibility of municipalities, but after World War II, the Province gradually assumed some responsibilities by cost-sharing with municipalities to fund local boards of health. Although municipalities are now

represented on district boards of health, they play a very minor role, as the boards' activities are prescribed and funded by the Province. Welfare responsibilities too have been largely taken over by the Province, although one cost-shared program, the Family and Community Support Services (FCSS) has been quite successful. This program was initiated in 1966 as a preventive social service program with the goals of preventing people from becoming dependent on welfare, preventing marriage breakdowns, reducing the number of child welfare cases, and promoting general social and physical well-being. It was jointly funded by the Province and the participating municipality, and

[it] allows municipalities wide latitude in program development, has resulted in a number of innovations in the preventive social service field, and has given the province a large number of inexpensive pilot programs to examine, some of which have been adopted province-wide (Masson 1985: 237).

Closer examination of the way FCSS is administered might reveal ways of improving the efficiency of other cost-shared programs in Alberta. The federal government too now plays a larger role in funding and delivering welfare programs, and the likelihood of municipalities ever resuming their former role, even if they wanted to, is remote.

One area in which the municipal role has been dominant is recreation and cultural activities. Municipalities have traditionally catered to the interests of younger members of the community, and various levels of playgrounds, libraries, and other facilities are typical of Alberta's urban places. More recently, family interests as a whole have been taken into account, as evidenced by the construction of recreation and leisure centers as well as facilities built mainly for adults. Many communities also offer a variety of courses for both adults and younger people to improve or expand their skills and education.

Of course there are also responsibilities for day-to-day administration of "city hall," although these are perhaps less visible and well-recognized than the services described above. Conducting

meetings, elections, property assessment, and so on are essential functions of local government.

Costs and Revenue

There clearly are substantial costs associated with the provision of the municipal services described above. Despite the municipalities' desire to remain as autonomous as possible, expansion of these activities has put a strain on the coffers of many local governments in Alberta. Local government traditionally has relied on locally collected taxes, in particular property taxes, as its major source of funds, although Masson (1985) notes that the proportion of municipal revenue received in this manner has declined over the last 20 to 25 years. The proportion of revenue obtained from property taxes varies with the municipality; cities for instance, received 42 percent of their total revenue from this source in 1980, while villages received 33 percent (Masson 1985). Other sources of income for the municipality include charges for public services (for example, user fees for utilities, access to recreation facilities, etc.), borrowing, and grants from senior levels of government. In effect, though, the only options available to the municipality for actually generating revenue are user fees and property taxes.

Those municipalities that own their utilities constantly face the question of whether they should be operated to maximize profits or merely to attempt to recover costs.

Some people maintain that utilities should make substantial profits to reduce property taxes, while others maintain that consumers of public services should get the benefit of 'break-even' utility rates (Masson 1985: 213).

We may be finding that, like it or not, we need to have a profit margin to finance costs of maintenance and replacement of infrastructure; for instance, many urban places are finding that replacing old (and some not so old) water and sewer lines is very expensive and likely to increase in cost.

From time to time there are squabbles over the issue of raising taxes and, in particular, over the number of non-profit facilities that are exempt

from property taxes — that is, most church, school, and hospital lands and buildings, cemeteries, irrigation works, and a variety of others (Municipal Taxation Act c. B-4 RSA 1980).

Because there is a ceiling on what taxpayers are prepared to accept, the ability to increase revenue through property taxes is limited. Thus, municipalities have been forced more and more to rely on grants from the Province. This situation seems to be one of the most contentious issues in the provincial-municipal relationship, and it has a major influence on the future of local government.

With the exception of maintaining its own administration, grants in various forms are now available to local governments to assist in maintaining these services (primarily from the Province, but some forms of assistance can also come from the federal government). There are basically two types of grants: conditional and unconditional. Masson indicates that, in 1980, together they represented about 45 percent of municipal revenue, depending on the type of municipality (Masson 1985: 215).

Over the last two decades, the Province has moved increasingly away from allocating unconditional grants to municipalities in favor of conditional grants, which are normally available on a cost-shared basis. Masson (1985) suggests that less than 10 percent of total municipal grant monies are now unconditional. This may be changing. In January, 1988, the Minister of Alberta Municipal Affairs indicated that grants for law enforcement, public transportation, and municipal assistance will be given unconditionally (Alberta Municipal Affairs 1988).

In times of recession, the Province suffers along with the municipalities, and grants generally have been reduced in the last few years in keeping with the Province's policy of fiscal restraint. Balancing budgets in times of prosperity is undoubtedly easier than managing during an economic downturn. The challenge of maintaining viable local governments may well result in innovative ways of doing business at the municipal level and may be a good reason for reassessing the future of the relationships between municipalities

as well as the provincial-municipal relationship in Alberta.

Balancing Budgets and Balancing Power

The increased reliance of municipalities on the provincial government for financial support leads to an inherent tension between the two levels. From the local perspective, municipalities cannot afford to be the sole providers of services their residents have come to expect. Seemingly "free" money from an external source often allows the provision of a level of service that would not be possible otherwise. It also means that local decision-makers can pass on the blame if funding for one thing or another does not materialize. On the other hand, accepting financial assistance from another level of government tends to create a situation of obligation. Although it is unusual for the Province to absorb totally activities traditionally carried out by local government, considerable power over the municipalities can be exercised by the provincial government in the way financial assistance is allocated. From the Provincial viewpoint, this enables province-wide standards to be established and enforced in such areas as transportation and sanitation.

Certainly much of the conditional funding for the services described above has become essential to the continued functioning of the municipality. However, the existence of such a funding pool makes it easier to maintain the status quo. For example, transportation is the most important conditional grant program; it could be argued that municipalities therefore are likely to continue to expand their road systems rather than to look for viable transportation alternatives that might be more economically and environmentally sustainable in the long term.

Masson makes three observations about cost-sharing and the use of conditional grants. First, local spending priorities and patterns can be altered and local autonomy eroded; under this system, the money is either used for the purpose specified by the granter, or it is foregone. This puts pressure on local decision-makers, who always need additional revenue, to accept the conditions whether or not they meet the particular immediate (or long-term) needs of the municipality.

Further, conditional grants are often designated for capital projects and facilities which, once in place, the municipality must then operate and maintain on its own. Finally, the conditions attached to funding can reduce the municipalities to being merely conduits for the administration of provincially designed programs.

Not surprisingly, cities rely less on grants from the Province than other municipalities, due to their larger tax base. But it is interesting to note the change, from 1969 to 1977, in the proportion of conditional and unconditional grants made to cities. McMillan and Plain (1979) point out that, in 1969, 46 percent of the grants transferred to cities were unconditional, an amount not dissimilar to other types of municipalities. By 1977, the percentage of transfers made as unconditional grants had dropped somewhat for all municipalities; however, for cities, the decline was staggering — from 46 percent to only 18.5 percent. This is in contrast to 1977 levels of more than 45 percent for all other types of municipalities. At that time, city residents represented over 60 percent of the province's population and the expenditures of cities were more than 70 percent of municipal government expenditures. In general, the sharp discrepancy in per capita grants relative to expenditures that existed in 1969 between cities and towns and other types of municipalities was rectified by 1977, but this catching up came through more extensive use of conditional grants. It is also worth keeping in mind that grant programs administered by the Province to other sectors often do not have conditions for their use attached. Although these grants are perhaps smaller in total, the per capita impact can be much greater.

Plain and McMillan (1979) made several recommendations concerning ways to restore local autonomy and accountability.

Among these was the suggestion that a system be devised whereby a municipal income tax could be collected, accompanied by a reduction in the proportion of tax taken by the Province, since the large revenues now transferred from the Province as conditional grants would no longer be necessary.

There is ample evidence that people are willing to take more responsibility for community affairs away from centralized and sometimes remote authorities. Fiscal autonomy is an essential part of strong local government, but along with this increase in financial independence and power there must be accountability and responsible local decision-making processes. There are many aspects to consider as we seek to improve the efficiency of these processes, and some of these will now be reviewed.

Making Decisions

It is beyond the scope of this paper to look more than superficially at the way decisions are made at the local level, and the reader is referred to the bibliography for more details on the structure of local governments, the role of elected officials, and the role of the bureaucracy. The ability of municipalities to manage their own affairs responsibly, to respond to the need of their citizens, and to plan for their future in a sustainable and dynamic manner will be critical to the acquisition of additional autonomy and flexibility. Many aspects of the local decision-making process work well, but because this is so important to the future of Alberta's urban communities, many of the problems are outlined below to encourage further debate and discussion, with the objective of making the system even better.

Many features are common to all local governments. "Paramount among these, is that power and control tend to be fragmented among the council, the mayor, the administration, and a plethora of special boards and commissions" (Masson 1985: 27). Furthermore, there are often provincial and sometimes even federal agencies that must be consulted, resulting in even more fragmentation.

This fragmentation can be frustrating to those who eventually must make the decisions, as well as exceedingly confusing and intimidating to citizens who may want to express their views or get information on a particular issue. As well, the various functions of local government tend to be combined so that council's executive and legis-

lative responsibilities blur into one another, adding to the confusion and frustration. Masson concludes his chapter on council decision making by noting that formal power in Alberta's local governments is dispersed rather than concentrated; no one individual or group is given enough formal powers to control effectively the administration or to implement major policy decisions. Therefore, the only way leadership can be exercised and a distinct policy direction taken is through the use of informal power.

Indeed, local policy decisions are influenced by those other than elected officials: municipal civil servants can exert considerable influence on these decisions, while the influence of interest groups can vary from trivial to substantial. Elected officials, who presumably were put into office to make policy decisions, can find themselves making decisions without adequate time or resources to become fully informed on the ramifications, the options available, and myriad other aspects that could have important implications for their citizens and the quality of the urban place.

There are many reasons for this, not least of which is the traditional attitude people have toward local politics. Initially the preserve of relatively well-to-do landowners, the job of municipal councillor continues to be perceived as a part-time, public service job. Indeed, the task seemingly is not overwhelming or there would not be so many people interested in the position. Nevertheless, it is unlikely that there are any councils in Alberta whose members, apart from the mayor, are considered to be full-time. In smaller municipalities, although the complexity of council activities may be reduced, there are fewer councillors, which may mean they have more diverse commitments and responsibilities, or decisions are left in the hands of the local administrators. In larger cities, aldermen are expected to put in as many as 40 or more hours per week sitting on sub-committees, reviewing significant budget matters, and so on, with little or no research support, very little clerical assistance,

and low pay. Consequently, it is impossible for councillors to be well-informed on all issues, and this is often where the influence of the bureaucracy or lobby groups is most important.

Well-organized and powerful interest groups can have an influence disproportionate to their size at the local level, although this may not be explicitly recognized in discussions of urban issues. It has been argued that the most powerful groups and individuals in a community tend to be those who are committed to local growth and development, and who view municipal government as the instrument to ensure that growth is sustained. Coalitions to advance particular positions come and go, and can range from the persistently influential property industry coalition to more specialized groups such as those concerned about expropriation of their land for LRT expansion, the location of a future landfill site, and even the future of pit bull terriers. As all elected officials must

The tendency to regard local politics as a part-time occupation probably undervalues the skills that are desirable in councillors.

be, aldermen and local councillors are sensitive to public pressure, and indeed it can be difficult to separate the politics from other aspects of the decision-making process. Interest groups are essential to local government. Problems arise when a group lacks an effective spokesperson or when only one interest group's point of view is heeded.

The tendency to regard local politics as a part-time occupation probably undervalues the skills that are desirable in councillors, and the salaries paid to local councillors reinforce the part-time attitude. Especially in larger centers where the issues are complex, the budget is large, and active participation is required from elected officials on a regular basis year-round, there are good arguments on both sides for changing this arrangement.

Citizen interest in local politics is difficult to assess — turnouts for municipal elections are traditionally and notoriously low, yet the media regularly cover city hall activities and, when an issue hits close to home, citizen response can be very high. Voter apathy may be due in part to the difficulty of sorting out just where an individual stands on issues or, especially in larger centers, there may be a feeling of distance between voters and elected officials. For instance, the average number of people represented by each elected official at the municipal level for both Calgary and Edmonton is greater than that for the provincial representatives from these cities. Although provincial legislation allows each city to have up to 20 councillors, the City of Calgary has 14, while the City of Edmonton has 12. Each city sends 17 MLAs to the provincial legislature. On balance, though, it seems there must be general satisfaction with the existing representation, as it is not a burning issue.

Although much of this discussion has focused on the role of elected local officials, professional managers are also widely used in Alberta to shape local policy and oversee the day-to-day functioning of the municipality. This approach is an attempt to depoliticize local government decision-making, effectively implement policy, minimize costs, and promote efficiency, all of which are reasonable objectives. It can, however, blur the lines of accountability, insulating the bureaucrat who administers a public service from both the citizenry and the elected official. In fact, the premises of political accountability and professional management coexist in most Alberta municipalities, and it appears that Albertans generally favor the latter over the former (Masson 1985).

Conclusion

The trend toward decentralization of power and more grass-roots involvement in the decision-making process is clearly taking hold in the United States. John Naisbitt, in his book

Megatrends (1984), documents this shift, giving many examples; it is also apparent that this transformation has many other spinoffs and implications for increasing the flexibility of individual cities and towns to deal with their own problems. In Canada, the Meech Lake accord heralds major changes in federal-provincial relations and this may, in time, translate to similar changes in provincial-municipal relations.

In any decision-making process, two criteria should be considered: efficiency and justice. Lynch describes efficiency as the cost, in terms of other valued things, of creating and maintaining the system, and justice as

...the way in which environmental benefits and costs are distributed among persons according to some particular principle such as equity, need, intrinsic worth, ability to pay, effort expended, potential contribution, or power. Justice is the criterion which balances the gains among persons, while efficiency balances the gains among different values (Lynch 1981: 118-119).

These criteria always require us to ask: "(1) What is the cost (in terms of anything else we choose to value) of achieving this goal and (2) who is getting how much of it?" (Lynch 1981: 119). A third, very important question related to the criterion of justice, must also be asked: who pays?

These questions should be part of any decision-making process whether it affects an urban area or any other place. Further to the goal of achieving a sustainable society, a citizenry that is environmentally literate is essential; the first step to this literacy is a strong commitment to and respect for the place where we live. Richard Levine (1986) suggests that a sustainable community must first exist by itself before it can be expected to change the direction of the larger society. The larger goals of society influence the direction we take at a personal or community level, but if we do not act at this lower level, the higher goals will never be reached. The phrase "think globally, act locally" succinctly describes the attitude required.

NEW DIRECTIONS

So what is to be the future of Alberta's urban places? Certainly one factor influencing their viability is having adequate financial resources to make and carry out decisions that affect them. Jack Masson envisions two possible fiscal futures for Alberta's municipalities: "either they will become merely administrative conduits for policies made by the provincial government or they will become viable units controlled by their residents" (Masson 1985: 357).

A sound economic base is fundamental to the survival of our communities and, in a world of increasing trade, commerce, and communications, economic and other decisions affecting Albertans will continue to be made outside our borders. Regardless of the outcome and the level of prosperity that results, there are advantages and disadvantages to every scenario. Finding ways to land on our feet and maintain a high quality of life for urban residents is essential. There remain other important aspects of our daily lives that we can influence at the local level, and these also should be addressed in a Conservation Strategy for Alberta.

Many difficult questions and possible solutions need open public discussion; underlying these is our natural interest in the central matter of "quality of life," and what it is that we wish to sustain. What do we need to keep in mind, and how can we ensure that these criteria are met, both for our own interests and those of future generations?

Quality of life and well-being are subjective and personal notions; those things that make one person content may not match those identified by another person, making complete agreement about the quality of life unlikely. There are some variables, however, that offer guidance as to what

things most commonly influence urban quality of life (see Table 3). To these generally accepted broad classes of economic, social, and environmental indicators might also be added a category pertaining to political (or structural and institutional) matters, as well as a category that acknowledges the importance of aesthetic factors. The former category would also include the need for responsive, informed governments at both the provincial and municipal level. Although clearly not comprehensive, this list is a starting point for thinking about how our urban places measure up.

These indicators provide an opportunity to look at what our urban places now have and to consider what our ultimate goals should be. What goals are realistic and how can they be reached? For example, what is considered to be a desirable demographic structure and how can this be achieved? If a mix of age groups is the goal, then communities will need to ensure they have something to meet the needs of people in a variety of age groups.

Furthermore, these indicators must be considered together; we have to pay attention to the environment, to aesthetic matters, and to our social fabric while planning ways to achieve economic growth. Urban places around the world, despite their economic reasons for being, are facing many of the same problems as they try to integrate these needs in their quest for vitality and sustainability. These difficulties and the importance of resolving them satisfactorily are being more widely recognized as key elements in maintaining global peace and stability. And the urgency of managing urban growth is increasing as ever more people flock to cities in search of jobs, food, and housing. "Cities are still the centers of govern-

Table 3. Selected Examples of Indicators of Urban Quality of Life

Economic Indicators

Average income level
Availability of employment
Variety of retail and service functions
Diversified economic structure

Social Indicators

Availability of health care
Availability of educational opportunities
Range of cultural and recreational facilities
Availability of adequate affordable housing
Crime rate and personal security
Demographic structure

Environmental Indicators

Air quality
Water quality
Land use
Noise

Aesthetic Indicators

Physical design of the community, including architecture, natural and built open spaces, and physical attractiveness

Institutional Indicators

Opportunities for public participation in making community decisions
Role of volunteers
Role of service clubs, religious institutions, ethnic organizations, etc.

ment, commerce, and culture in the West, [and] making them nicer places to live in is a vital job for the 1990s," says *The Economist* (January 16, 1988).

Pride and self-respect are essential qualities for urban places and their residents to develop if they hope to achieve the goal of being vital, sustainable places to live. People need to like where they live and that is the starting point.

Although many urban places in Alberta probably would rank themselves relatively highly using the indicators listed above, our economy is

still heavily dependent on natural resources, and other services and opportunities are not evenly available across the province. This is a difficult matter that is often resolved without adequate public debate and discussion. Albertans need to consider, for instance, how to ensure fair and reasonable access to health care, educational opportunities, and so on. Industrial diversification is another key issue. Past attempts by governments to encourage industrial development through financial means have frequently failed to be cost-effective or to yield long-term benefits. Yet economic diversification is essential to Alberta; can we find a better way? What about the relationship between municipalities and the Province? How can we improve on what we have?

Maintaining the environmental quality of our urban places is also essential. This paper has discussed many of the components of urban environmental quality, largely from the point of view of the natural environment. But we also need to pay attention to the design of our built environment — how do we mesh the natural elements with our built ones? In an ideal design, these boundaries would be blurred: to the casual observer, there would be a pleasant integration of appearance and function.

Many of the problems facing urban places in other parts of North America and the world are less apparent in Alberta. As a young province, with young towns and cities, we have an opportunity to avoid what has been for some countries and states a social and political problem of astounding proportions, as their urban communities deteriorated and sometimes crumbled. A Conservation Strategy for Alberta would be incomplete if it did not address the difficulties and dilemmas of our urban places and identify what the alternatives might be.

One thing is absolutely certain: successful, sustainable communities do not happen by accident. Albertans from all walks of life need to turn some of their optimism and creativity to meeting these urban challenges as we move into the 21st Century. The rewards will be great and we can all feel a strong sense of pride in calling Alberta "home."

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- Municipal Taxation Act. c. M-31 RSA 1980.

Appendix A.

MEMBERS OF THE URBAN ENVIRONMENT SUB-COMMITTEE

The following people served on the Urban Environment Sub-Committee at some time during the preparation of this discussion paper.

Mrs. Gerda Bako — Alberta Cancer Board
Dr. Lochan Bakshi — Unaffiliated
Mr. Kenn Blom — Unaffiliated
Mrs. Loretta Daniel — Alberta Association of Landscape Architects
Mr. Ron Davidson — City of Airdrie
Mr. Keith Driver — Unaffiliated
Mr. Cam Finlay — Council of Alberta Rural Ratepayers' Association
Mr. Maurice Fitzpatrick — City of Leduc
Mr. W.A. (Bill) Flook — Unaffiliated
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Mr. A. Michael Holland — Alberta Association of Architects
Dr. Robert Holmberg — Athabasca University
Dr. Doug King — Urban Development Institute of Alberta
Ms. Joan Lewin — City of Calgary
Mrs. Marcelle Lutz — Consumers' Association of Canada
Mr. Frank Markson — Urban Development Institute of Alberta
Mr. Ernie Park — Alternate for Craig Reid
Dr. Ken Penniford — Unaffiliated
Alderman Dave Petroski — City of Fort Saskatchewan
Mr. Chris Pickard — Society for the Protection of Architectural Resources in Edmonton (SPARE)
Alderman Larry Pimm — City of Red Deer
Mr. Scott Pragnell — Alberta Association, Canadian Institute of Planners
Mr. Ernie Radbourne — City of Grande Prairie
Alderman Craig Reid — Alberta Urban Municipalities Association
Mrs. Pat Reschenthaler — University Womens' Club of Edmonton
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